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ORIGINAL ARTICLES.

THE ETHICS OF ABORTION, AS A METHOD OF TREATMENT IN LEGITIMATE PRACTICE.[1]

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The object of this paper is to investigate the ethical relation of the physician to the production of abortion in legitimate practice, and to consider his duties and responsibilities, when the question would intrude itself without the possibility of evasion, as in those cases of deformed pelvis and uncontrollable vomiting in which the operation is regarded as the last hope of the afflicted female.

Owing to the recognized and stable position which abortion has attained in therapeutics, I have refrained from questioning its claim to be classed among the resources of medicine, and I have also excluded the consideration of its criminal or felonious aspect, much as I may marvel at the prevalence of a horrible crime which is devastating this fair land, and curtailing by the million, the development of its population and its power. This aspect of the subject has been treated by many able writers, whose experience, naturally, has been far greater than that which has been afforded me by the revelations attending a comparatively short residence in Boston. I have endeavored to avoid, as far as it is possible in dealing with a subject so involved, all arguments based upon the doctrines of any particular creed, as well as any special reference to medico-legal authorities, because I wish to induce my audience to approach the subject dispassionately, and to permit each individual to reflect upon it independently of the preconceptions derived from religious teachings and professional prejudice. In the complex conditions of modern civilization the most honorable and humane men are frequently constrained by their surroundings to entertain views and to perform acts from which, upon consideration, they would shrink aghast. This insensibility is largely the result of the accretion of thought and the consequent growth of habits and popular beliefs; of the confusion of the relative bearings of associated ideas, and the resulting perversion of personal opinion and human sympathy. We perform many acts of injustice and cruelty owing to the difficulty of disentangling the great underlying principles, and in the struggle for existence, which suppresses all tendency to introspection, we are precipitated into psychological quagmires by custom, confusion, and self-interest. Such, I am satisfied, is the condition of the professional mind in relation to abortion, and I write this paper for the purpose of inducing the thoughtful physician to reconsider his duty and responsibilities, as well as to investigate the basis of the popular idea, that owing to the adoption of the most humane calling, a physician should be expected to produce abortion at the behest or for the benefit of any individual. I have appended a few suggestions indicating a possible method of relieving the profession from this unjust and odious responsibility, while extending to the parent and the fœtus the fullest measure of human justice.

As a preliminary to the consideration of the "Ethics of Abortion" it is necessary to recall the salient points relating to the vitality and the individuality of the fœtus, and to endeavor to determine at what point of intra-uterine life it attains a right to be regarded as a fellow mortal. It is unnecessary to remind you that as physiologists we cannot accept the dictum of Aristotle, who held that the fœtus did not attain viability until the fortieth day after the fruitful coition, neither can we coincide with those legal authorities who hold that the *human* offspring is not a *human* being until it ceases to be *pars viscerum matris*, and is completely extruded from the body of the mother. It is satisfactory to know that the definition is not universally accepted, many judicial writers regarding it as erroneous and productive of crime, owing to the immunity from punishment which it affords to the evil-doer. On the other hand it is interesting to discover that theologians and biologists agree upon the period at which independent life becomes the attribute of the fœtus. The former hold as a dogma, that with the act of impregnation, instantaneously originates an absolutely independent life which confers upon the individual the indestructible soul, with all its associated rights and responsibilities, while the latter insist that at the moment of the fusion of the male and female germs vitality is established and the essential components of the mature individual are represented, the development which subsequently elaborates all the structural details proceeding by the innate differentiation of the impregnated ovum.

I would remind you that at a very early stage of the so-called vegetative life of the fœtus the essential characters of the vertebrate animal appear in

[1] Read before the Gynecological Society of Boston, Sept. 9, 1886.

rapid succession to the primitive groove which presents itself in the blastodermic membrane within a few days of impregnation. The vertebral column appears in the first week and arrives at the cartilaginous stage in the sixth; the intestinal tract is recognizable in the second week; the heart and lungs are visible in the third week and the duplex character of the former is apparent in the seventh; the cerebro-spinal centres appear in the third week, the brain being distinguishable in the fourth. This characteristic human organ is rapidly developed, and in the fourth month it differs only in size from its condition at birth, while the organs of the special senses as well as the sympathetic and sensori-motor nerves are developed simultaneously with the brain.

We must remember that immediately after impregnation, vital phenomena are manifested in cell-proliferation, differentiation, nutrition and organization. With the exception of respiration, all the functions are performed early in fœtal life: the heart pulsates; the circulation is complete and independent of that of the mother; the intestines contract and the fæces are expelled; urine, as well as bile and the other intestinal fluids are produced; the skin develops hair and epithelium, while its secretions are produced in abundance. At a very early period we recognize the physical conditions essential to the manifestation of the simpler nervous phenomena, namely, a nervous centre connected with afferent and efferent nerves. In the fourth or fifth month mobility is very apparent in the well-known and complex symptom of "quickening," and from that period we have ample proof of reflex and, apparently, of spontaneous or sensori-motor phenomena. If we coincide with Locke as to the capacity for ideation which infants possess, it is difficult to deny similar powers to the fœtus immediately before birth, and still more so to define the dawn of sensation and volition in an individual possessing all the essential organs in a condition differing only in degree from their more mature development. The capacity of the fœtus to perceive pain is impossible of proof, yet it is but fair to recognize that this power is contemporaneous with the development of the sensory zone of the cerebrum, in the fourth month. Consequently we may reasonably conclude that at least after this period, abortion is a source of suffering to the fœtus proportionate to its age and the violence employed in the operation. The conclusion at which we must arrive, a conclusion corroborated by the teachings of religion, is that from the instant at which impregnation occurs and the ovum receives life, the fœtus is human, and at all periods differs in degree and not in kind from the infant and the adult. Therefore, we must regard it as a "human being" with an inalienable right to life, and that its destruction is homicide.

If you permit me to remind you that homicide includes the destruction of human life under every possible circumstance, and that it is divisible into justifiable, excusable and felonious, I shall endeavor to assign to abortion its proper position in this category. Here I may mention that for the sake of brevity and precision I have adopted the legal signification of "Abortion" which includes the destruction of the fœtus at all periods and under all circumstances between conception and "full term." Justifiable homicide comprises all those cases in which life is voluntarily destroyed owing to a motive which renders the act meritorious, as in warfare; in obedience to the command of a properly constituted authority; by an official in the performance of a duty imposed upon him; in the prevention of forcible or heinous crime, or for the protection of the life or honor of the slayer or of some person dependent upon him. The justification is, however, limited by the most stringent conditions, and to slay the greatest malefactor extra-judicially is wilful murder. A judge without a commission from the authorities cannot command the execution of a criminal even after the most impartial trial; the execution must correspond accurately with the sentence. A homicide committed by an officer of the law must be absolutely necessary for the performance of an imposed duty; even an individual in self-defence or interfering to avert a great crime, must have adequate motives for his action. Any departure from these conditions converts the act into wilful murder. Homicide is excusable when it is caused by mischance or accident, except when the slayer manifests a wanton disregard for the safety of others; and when the life or valuable property of the slayer, who must not provoke the affray, is in imminent danger. Felonious homicide is always wilful murder, or murder of the first degree, unless alleviated into manslaughter, or murder of the second degree, by being the involuntary and unfortunate consequence of some act not strictly lawful, or occasioned by some sudden and sufficient provocation. Wilful murder is characterized by premeditation or malice aforethought, which, among many other conditions, includes the intention or, even without the intention, the knowledge of the liability of the act to kill or injure any person though that person be other than the victim of the violence.

Abortion is not justifiable homicide because it is not commanded or permitted by any authority, the law forbidding it under every circumstance, and all Christian religions agreeing in refusing to countenance the deed. It is not decreed by a legal tribunal or committed by a specially commissioned officer of justice in the performance of a necessary duty, or by the operator as a public executioner. It cannot be said to prevent the fœtus from committing a violent or heinous crime; the life, honor, or property of the physician or that of any one having an ethical claim upon him for protection is not in danger. In addition, it is obvious that the restrictions which qualify the privilege are also in full force against the act. Abortion is not excusable homicide because it cannot be the result of mischance or accident; it is not performed in self-defence by the physician, nor can the contingency be considered as unprovoked by the parent. Abortion cannot be held to be manslaughter because the very nature of the case demands grave premeditation and definite plan of action, which constitute malice aforethought; sudden and sufficiently violent provocation is impossible on the part of the fœtus, and abortion is performed with the obvious intention to commit an aggravated felony, and the

operator has a perfect knowledge of the fatal nature of the act. Thus, presenting all the essential conditions, we must look upon abortion as nothing less than wilful murder. But is it not still a greater crime? Crimes are divided into natural and unnatural, the latter consisting of all those acts which are contrary to the great fundamental and natural instincts of self-preservation and reproduction of species. Abortion is an act which is directly antagonistic to reproduction, and as such, like suicide and other crimes which are unnamable, it is unnatural. Consequently it is a greater crime even than wilful murder; a

"Murder most foul and most unnatural."

We shall now consider the relations of parents to their offspring, and the foundation of their claims to the life which they have conferred. Divesting this gift of its inscrutable and preternatural qualities, let us regard it in the light of an ordinary worldly benefaction. According to the statutes regulating Ownership, when a gift is of such a nature that it cannot be formally bestowed and accepted, any act conferring upon the recipient or donee the power of using the article constitutes him the absolute owner. Apparently this is the statute which approximates most closely to the transference of life from the parents to the fœtus. Possession is another legal basis of ownership which, for the prevention of injustice, throws the onus of proof on the claimant, and, in addition, as the transmitted life is neither real nor personal property, a claim to its resumption cannot be based upon any existing law. The gift of vitality, which is essential to the existence of the recipient, is voluntarily or thoughtlessly discarded by the parents in the pursuit of pleasure and the gratification of a passion. The donors must be held to be cognizant of the probable effects of this act, and the deed is ratified by being sealed with the image of God which conveys to the fœtus the infinitely greater gift of the immortal soul. Consequently the life must be regarded as the inalienable and lawful property of the recipient, who can be deprived of it only by an unjust and despotic act. Such are the usual conditions under which life is transmitted from the parents to the offspring, and for the gift the latter appears to be under no moral obligation, and least of all that of surrendering it. Filial duty is rather the result of subsequent solicitude and parental services which, accumulating during the periods of infancy and adolescence, render the claim of the parent upon the life of the offspring directly proportionate to its age. However, if we admit for a moment the right of the parent to the life of the offspring, it is easy to conjecture many cases after birth in which the resumption might be defended by all the arguments used in favor of abortion, in addition to the other considerations which I have just suggested. Let us assume, for example, that a parent reduced by hæmorrhage has, humanly speaking, but one chance of life, that by transfusion of blood, and that the only available source is her infant, to whom the abstraction of the requisite amount would be, without question, necessarily fatal. It may be contended that in this instance an essential element is absent, namely, that of mutual danger and the necessary forfeiture of both the lives if one should not be sacrificed. Let us modify the situation but slightly by supposing them to be famishing castaways in mid-ocean, and that the parent sacrifices her child for her own sustenance. Then, indeed, the right of the mother to kill her offspring with the object of saving her own and, in her estimation, the more valuable life, must be regarded as at least as well founded as is that of the mother who demands the destruction of the child within her womb to free her from the fatal consequences of her voluntary act. A parallel contingency in real life occurred recently which resulted in the trial of two men for the murder of their companion. They were starving at sea in an open boat, and to prolong their own lives by drinking his blood, they hastened, by a few minutes, the death of an expiring boy by cutting his throat. After a most exhaustive trial, in which the case was argued by some of the most distinguished lawyers at the English bar, they were found guilty of wilful murder and sentenced to suffer the extreme penalty of the law.

Of the many arguments which are advanced in favor of abortion, that which appeals most strongly to the sense of the community is the propriety of preserving, at any price, the life of the mother, who is frequently a loved wife, a valued friend and the inestimable centre of a family circle. This is a plea which I should be the last to reject, but we must not permit any collateral considerations to blind us to the object of our investigation, namely, to determine the fullest measure of justice to which the mother and the fœtus are entitled and the position of the physician in relation to the performance of abortion. It is often contended that the undeveloped condition of the fœtus and its dependent and defenceless state detract from its claim to existence, but if we exclude the element of birth this is an argument which with equal propriety may be advanced against the rights of many adults, most children and all infants. Mental deficiency might be pleaded with equal justice in defence of the murder of many of our fellow-creatures, as the imbecile, the insane, and even the comatose, but, far from extenuating the act, their condition only aggravates any violence which is offered to them; while monsters, the cyanotic and the victims of arrested development could be as justly destroyed on the ground of incomplete physical conformation as the immature fœtus.

By a modification of the arguments which are based upon the shifting and delusive assumption that abortion is sanctioned by being conducive to the benefit of society, it would not be difficult to defend a proposal for the stamping out of virulent epidemics, such as cholera and yellow fever, by the killing of those who are first stricken with the disease. Another defence of abortion is based upon the futile and deceptive comparison of the relative value of the lives of the mother and fœtus. This is but an effort to contrast the known with the unknown, for the natural development of this unborn being may possibly result in a career greater than any with which the old world or the new has ever yet been blessed, greater even than that of a Cæsar or a Socrates, an

Aquinas or a Washington. It must be acknowledged, however, that the approximate value of human life is based upon its probable duration and the estimate of society. If we accept as a test the probable duration of life, we must decide in favor of the fœtus, for although the probabilities are greater in a child of ten years than in an unborn babe, the latter, owing to the low mortality in pregnancy and parturition, has a better prospect of life than any adult. Assuming that the estimation of society or of the friends be accepted as a basis of judgment and action, almost invariably the mother's life will be that which the physician will be implored to preserve. It is possible, however, that in rare instances, as when a great inheritance, a title, or a dynasty depends upon a child's life, he may be commanded, at his peril, to sacrifice the mother and save the child. Law and and religion are opposed equally to both the acts. Custom is more tolerant of the fœticide, but expediency, which is the sole sustainer of abortion, sometimes may vary its verdict and declare itself favorable to the preservation of the more valued, even though the younger, life.

It may appear to the casual or superficial thinker that the mother, at least, is justified by the first law of nature to destroy, by her own action, the life of the fœtus, if she possess the requisite knowledge and skill, but we must remember the conditions which limit this natural right. The slayer must not provoke the affray or the "difficulty," and the Catholic doctrine adds the proviso that to justify the killing the victim must be an "unjust aggressor." Neither of these conditions is fulfilled, because the mother is generally a consenting and often an inciting party to the act of conception, and the proverbial innocence of the "unborn babe" makes aggressive injustice impossible. Therefore the mother has no right to destroy her offspring with the object of preserving her own life. The father has still less justification for interference, because, although it is his duty to protect his wife, he, at least, has been voluntarily accessory to the originating act, and his privileges are in other senses more limited than those of the mother.

We have considered the relations of all the individuals implicated in an abortion, with the exception of the physician, who must act either as a skilled agent or as a principal. If we regard him as an agent who has been engaged to perform a specific act, his rights and privileges cannot be in excess of those who employed him; and if, as I have endeavored to demonstrate, the mother or father have no right to destroy or to engage another to destroy the fœtus, the physician must act upon his own responsibility, and we shall proceed to investigate his position. The duty of a physician may be summarized thus: He must perform every just and lawful act which is essential to the life and conducive to the physical welfare of the patient whose care he has undertaken. Let us consider for a moment the responsibilities which he incurs in producing abortion. He decides that the procedure is essential, notwithstanding the probability that, owing to the rarity of the operation, his experience may be defective and consequently his judgment erroneous and misleading. Here I would remind you that in the practice of the more distinguished obstetricians, the proportion of intentional abortion appears to be inversely to their years, and it must be remembered also, that although the decision may occasionally be in the hands of an able and experienced physician, under existing conditions it is determined, more frequently, by the ordinary practitioner, who is often but poorly equipped for such a solemn responsibility. In addition, the case is decided not even by an honest, if ignorant, practioner, but too frequently by the unreliable followers of one of the many "pathies" which help to swell the American death-rate, or by the incapable and unconscionable quack. The physician undertakes an operation which is necessarily destructive of one human life, and, owing to its dangerous nature, most hazardous to another, and possibly, as in cases of multiple conception, the operation may result in the death of three, or even a greater number, of human beings. Unless he permits his own judgment to be subordinated to the equally fallible human opinion of his employer, he voluntarily undertakes a deed sanctioned by no law, but always regarded, often perhaps too impassively, as a felony, and punishable accordingly. Without any commission, and frequently prejudiced towards a certain view, he constitutes himself the judge of a court from which time admits of no appeal; before him a dumb and defenceless prisoner is arraigned for the intent to inflict an injury of which it is unconscious; he ignores that impartiality so essential in an arbiter of life and death, and is simultaneously the judge and the counsel for the prosecution; he decides adversely to the accused, condemns him to the most frightful and painful death, and lastly, as the executioner of his own sentence, he sends an unborn fellow-being from a world he has never seen into that "great Beyond," which the strong man and the wise man dread to enter even, after the most prolonged and anxious consideration. In the saddest chapter of the saddest history, that of the Irish rebellion of 1798, one figure towers aloft by reason of his stature and his fiendish cruelty. His literally veracious epitaph ran thus:

> "Here lies that brutal Hempenstall,
> Judge, jury, gallows, hangman, all."

I cannot discern how he differed from the physician who produces abortion, except that Hempenstall held a special commission from the King of England authorizing his brutal iniquities, he was maddened by his turbulent surroundings and excited by the inhuman antagonism which resulted from his victims being matured men, capable of resisting him, and of being possibly all that his education and his prejudices depicted them, while the physician has no warrant compelling him to perform the deed, his victim is a defenceless and unoffending fellow mortal; his surroundings and his teaching tend to calm deliberation and just conclusions, his duty is to preserve the life of his patient by every just and lawful act, and, mark you, all mankind who, formally or informally, come under his care, are equally his patients, the fœtus as well as the mother, and if he would not be a Bravo, neither fear nor favor nor remuneration can ever justify the sacrifice of the life

or interest of one patient for the pleasure or advantage of another. Finally, that great dictum which underlies all true religions, "Do no evil that good may follow," deprives him of every flimsy and inadequate plea suggested by that insolence of ignorance so essentially a human attribute, reaching its highest development in the pursuit—here, it can hardly be regarded as a profession—which often, with the most inadequate preparation, arrogates to itself and has conferred upon it, by an otherwise rational public, the greatest worldly responsibility.

While personally repudiating all sympathy with abortion in any form, I shall conclude with the following suggestions, which may be justified by the principle that "new circumstances demand new laws." The prevalence of abortion as an established procedure in modern medicine, the freedom with which it is practised and the enthusiasm with which it is advocated by gentlemen of great professional influence in this city, some of whom I heard in public indignantly denounce other individuals, medical, lay, and clerical, because they conscientiously refused to assist or sanction the destruction of the embryo, are the circumstances which convince me that no existing enactment, either human or divine, can prevent many physicians from practising abortion in good faith, and consequently that some "new laws" are needed which shall tend to limit its application to the minimum, and to alleviate, in the juridical sense at least, the repugnant act of abortion into "justifiable fœticide." Such a restriction, while affording every advantage compatible with justice to the mother, should insure to the fœtus every possible security by adequate investigation and representation, in accordance with established legal procedure. Every court or tribunal consists of three essential elements, the plaintiff, the defendant, and the judge. The two first-named are frequently permitted to "appear" by proxy, and generally their interests are guarded by skilled advocates. In criminal law, where a fourth element is introduced in the person of the executioner, the greatest precautions are exercised to secure for the most notorious malefactor every advantage which can accrue from thorough investigation, the admission of favorable testimony, and the assistance of able lawyers, who are frequently supplied by the authorities. Even when a cadaver is discovered the State institutes a most exhaustive investigation in order to determine the circumstances connected with the death, and the climax is reached when the Law, having executed a criminal, makes a a formal inquiry into the cause of his death!

If such care be bestowed upon the elucidation of the causes of death and the equitable trial of abandoned criminals, it is natural that we should inquire if the State does not neglect its duty by permitting this notorious and daily destruction of human life without a rigid investigation and the assertion of its unquestionable right to veto or to sanction each case, according to its merits. If the authorities could be awakened to the necessity of establishing a tribunal for the purpose of restraining those practitioners who are not deterred by ethical considerations or religious scruples, its construction should be an easy matter for the practical legislator. According to precedent it might consist of the presiding officer or judge, a physician of the highest professional probity and juridical reputation; an able practitioner as the counsel or defendant of the fœtus, the parent being represented by her personal medical attendant, and the fourth member of the court would be the executive officer. That such an officer as a State abortionist should be appointed is apparent, owing to the many instances in which no power could compel the attending physician to perform so repugnant an operation, while even if he were willing to undertake it, his opportunities might not afford him the essential skill and experience. It would hardly be in keeping with that rigid impartiality so desirable in a presiding officer if, as the executioner of his own mandate, he were to perform an operation for which he would necessarily be remunerated; neither would it be in keeping with the function of the physician to whom we have alluded as the representative or defender of the fœtus, to destroy the life of his client. With such a tribunal the operation would be shorn of some of its most objectionable features.

A restraint would be imposed upon those who regard their personal judgment as all-sufficient and final, if the practitioner were compelled to report to the executive those cases in which he considered abortion essential; the members of the noblest profession would be protected from a degrading demand to commit a felony; the popular opinion which ascribes to the medical profession the odium of encouraging abortion, owing to the levity with which physicians frequently discuss the subject, would be exploded; without the sacrifice of dignity or emolument the physician would transfer to the strong arm of the law a great responsibility; without any infringement of her liberty the patient would have the advantage of supervision and treatment by skilful and experienced physicians in consultation with her own attendant; and finally, two classes of criminal abortion which occur but too often and without attempt at concealment, would be eliminated.

The first is that in which the patient, anxious to evade the trials of maternity, imposes upon the inexperienced or careless physician by simulating the alarming symptoms of pernicious pregnancy until he is persuaded that abortion alone can preserve her life; in the other class the practitioner, more or less above suspicion, justifies or cloaks a criminal abortion by averring that the evacuation of the womb is essential. An instance illustrative of one or other of these classes was disclosed in the course of a notorious divorce trial which recently scandalized this city. The attending physicians deposed that the abortion was essential, while other witnesses asserted that it was performed to avoid the expense and inconvenience of motherhood. A practical step towards the suppression of, at least, some forms of fœticide, would be inaugurated by rendering its performance more dangerous to those abandoned wretches who abuse the most precious human instinct, dishonor the fair fame of medicine, and defile the national reputation by their dastardly and incredible outrages against the sanctity of life.

THE EARLY DIAGNOSIS OF PREGNANCY.[1]

BY E. S. McKEE, M.D.,
OF CINCINNATI.

The opprobrium obstetrici is our inability to make a prompt and positive diagnosis of pregnancy in the earlier months. How often are we confronted by one of our female patients with the query, "Am I pregnant?" Many a woman imagines that her doctor can look at her and tell whether she is pregnant. How often great things depend upon our decision. Our patient may wish to take a long and long-looked for journey, but will defer or abandon it if she is pregnant; or other affairs of import, as the question of operative interference may depend on our answer. In fact, fortunes, empires and lives hang on our decision. She who fears she is to be a mother, though not a wife, thinks her case of no less importance.

It is in the first months of gestation that the physician needs reliable evidence, hence we should endeavor to add to the means already at our disposal any symptoms indicative of the presence or absence of pregnancy. It is with this in view that I will endeavor to rehearse the symptoms, confining myself to those of the first trimestrium. Those symptoms well known will receive but passing comment. Those newer and as yet not fully established in our text-books, shall have more attention.

First in the natural order, we consider the signs which may occur at the time of conception. Aristotle taught that a woman had conceived if there was no return of semen after sexual intercourse, and if the penis was unusually dry when withdrawn. Such is also the universal opinion of shepherds. Hippocrates said that the eyes sank in their sockets. Democritus, that the neck swelled. These, however, are of little value. Probably the only sign of any worth is the peculiar voluptuous sensation, and the more general erethism experienced by some females on fruitful intercourse. Many think they can tell positively by their feelings when impregnation has taken place. Though they may be correct in some instances, yet it is quite probable that in many others they are not.

Among the first symptoms of pregnancy are absence of menstruation, nausea, and vomiting, slight flatness of the hypogastric region, depression of the umbilical ring, tumefaction, accompanied by sensations of pricking and tenderness; increase in size and weight of the uterus; increased pulsation in uterus and vagina and decensus uteri; womb is less movable, uterine walls have the consistence of caoutchouc; the neck is directed downwards, forwards, and to the left. The orifice of the os tincæ is rounded in primaparæ, but more patulous in others who have had children. A slight softening of the mucous membrane of the lips and an œdematous appearance of the same. Various neuralgias and neuroses, disorders of digestion, and other symptoms, are noticeable. Many women have an abundant leucorrhœa of white or greenish color (granular vaginitis). What may be said of the first of these, absence of the menses, may be said of them all. There are numerous exceptions to any one, and the same condition may be produced by other causes. Hence very unreliable testimony. Thus, an ulcerated os may perfectly imitate the velvety feeling of the cervix; the breasts may enlarge from mere uterine irritation; and the womb may hypertrophy from congestion. Jacquimier noticed the slate, or purple, color of the vagina from embarrassed circulation in the venous capillaries of the mucous membrane. However, patients with uterine tumors, especially old women, and those who have piles and varicose veins on the legs, may have a violet colored vagina. The same may even be caused by impacted fæces; in fact, by anything which seriously impedes venous circulation. The smooth anterior vaginal wall mentioned by Barnes may also be caused by a uterine fibroid. So it is the size of the uterus, not its contents, which causes this condition.

Dr. Joseph Taber Johnson, of Washington, in a paper before the American Medical Association, in 1881, suggested that some of the principles of the telephone might be utilized in hearing the feeble sounds of the fœtal circulation much earlier than is now possible. I do not know that any one has pushed this matter further. Certainly here is room for investigation. Dr. Routh was the producer of the instrument called the vaginoscope, or more properly, using a word from the Greek, coleoscope; an instrument consisting either of the common stethoscope or the simple or double instrument with elastic tube. To the distal end of this is affixed a wooden speculum. Sometimes he used a solid tube made of gutta-percha or wood in lieu of an elastic one. He thinks glass would be better, as it is a very good conductor of sound, and rather increases the pitch, is readily kept clean, and does not make a noise when rubbed against the clothing. The flexible tube may be passed per anum. He reports a number of cases which seem to bear him out. Verardina has also contributed largely to this subject. Dr. E. Kennedy, of Dublin, gives examples in which he has been able to hear the placental souffle at the twelfth, eleventh, and once in the tenth week. He has not been confirmed by others. Cazeaux says the fœtal heart has been heard as early as the third month.

Dr. S. C. Dumm, of Columbus, Ohio, published in 1878 a new sure diagnostic sign of pregnancy. It consisted in finding the odor of the vernix caseosa upon the finger after a vaginal examination during the first or any subsequent month. In a recent communication to me the doctor says: "I think it is one of the clearest on the list, and if carefully paid attention to will reveal the condition inside of four weeks."

Dr. Eugene C. Gehrung, of St. Louis, wrote of palpating the ovum with the point of the sound. He says the sound should be used very gently and by skilled hands, to which we will all agree, if we consent to its use at all. It gives the sensation of pushing the sound against a bladder filled with water. This is not a positive sign, for in the earlier weeks of pregnancy the ovum is only attached to parts of the uterine walls, and the sound may easily glide by.

[1] Read in the Section on Obstetrics at the Thirty-Seventh Annual Meeting of the American Medical Association.

This same sensation might be produced by a polypus in the uterine cavity, as well as by some other foreign bodies. These cases, however, can generally be differentiated by the history. In a recent private letter Dr. Gehrung says that he proposed this not as an additional sign of pregnancy, but as a safeguard to the gynecologist. It will often save him the humiliation of causing an abortion. He says it is not to be thought of except as a last resort. The earliest period at which the sign has given him warning is at about the fifth or sixth week.

Kyesteine has been the means of determining many an early diagnosis, but still its presence is undoubtedly caused by certain pathological conditions. It has also been found in women not pregnant, and even in men.

M. Pinard, in 1877, treated of a swelling and softening of the gums in pregnancy, and later it is made the subject of an inaugural thesis by Didsbury. This begins about the second month, and is described by Didsbury as consisting of three grades. In the third the inflammation is so marked that it gives a violet red color to the gums. They are puffed out, and the interdentary spaces stand out in marked relief. The tartar and the epithelial débris collect about the necks of the teeth, and the inflammation extends to the alveolar periosteum, when the teeth become denuded and finally fall out in a perfectly healthy condition. This gingevitis is located especially on the anterior and convex portion of the maxillaries. It is rare to see it go beyond the canines. The other symptoms which present, are pain and local hæmorrhages.

Jorisenne, in 1882, stated that he had discovered a new sign of pregnancy, and claimed to be able to diagnose that condition when there was no other sign present than the absence of one period. Long ago Graves formulated the law that in cardiac hypertrophy the radial pulse remains constant whatever the position of the body. Larcher and Ducrest, in 1828, described a hypertrophy of the heart which occurred in pregnant women. Larcher claimed that the arterial tract throughout the body elongated to supply the fœtus. This hypertrophy seems to be constant and considerable, and to be a purely physiological alteration to meet the increased exigencies of the case. The hypertrophy is limited to the left ventricle. Blot estimated the increase at one-fifth the whole weight of the heart. Löhlein, with more recent investigation, thinks the hypertrophy less than one-fifth. Receiving Graves's doctrine, Jorisenne found that whilst in the unimpregnated woman there is a variation of ten to twenty beats in the radial pulse, from change of position, in the impregnated it remains the same. He advises to proceed with deliberation, counting the pulse a full minute lying, sitting and standing, allowing a time between each change of position for the circulation to regain its equilibrium.

Dr. H. D. Fry has investigated this symptom fully and reported his cases. He found that the pulse varied with almost every change of position, and that absolutely no reliance could be placed upon this symptom as a diagnostic sign of pregnancy. I have tested it in a number of cases myself with negative results. Dr. Fry has also written concerning a new early symptom of pregnancy, viz.: An increase of vaginal temperature. After discussing the question fully and relating his experiments, he arrives at the following conclusions: "That a vaginal temperature equal to or more than 99.7° is a strong presumptive evidence of impregnation; provided there are no pathological conditions of the uterus present and no increase of heat in the axilla." In a private letter not long since, Dr. Fry, after quoting the above, goes on to say: Now the results of my subsequent observations have led me to modify this statement somewhat, and I would substitute as more certain the following: "A rise of intracervical temperature to one degree or more above the temperature of the axilla. The reason is that in several instances I have found early pregnancy co-exist with a subnormal temperature in the axilla, so that while there was a difference of more than a degree in favor of the intracervical temperature, yet the latter only registered 98.4° in one case and 98.7° in another.

I have experimented, for more than a year, as to the vaginal temperature. While in many cases I have found this elevation of temperature, in as many more none could be detected; and again, elevations of temperature have been found where no morbid condition could be made out, and pregnancy was not present. As to the increase in intracervical temperature, my experience has been limited, but so far, has led me to believe it a more reliable test than the intravaginal.

To Hegar, of Freiburg, we are indebted for the new sign of great promise which bears his name. To Hegar's sign of pregnancy I had expected to devote the greater part of this paper. Owing, however, to the writings of Reinl, Compes, and Grandin, which have been so largely quoted by the American medical journals during the last two or three months, I fear I shall be speaking of something not new but quite familiar to all. This sign consists of an unusual resiliance, compressibility, softness, bogginess, yielding and thinning of the lower uterine segment; that is, the section immediately above the insertion of the ligamenta sacro-uterina. This condition is not alone present when the remainder of the body, as is often the case, is firm and hard, but also quite prominent when this is soft and elastic. The shape assumed is fan-like, or that of a balloon, more than the usual pear shape. It has also been termed an old-fashioned fat-bellied jug. This enlargement is especially marked antero-posteriorly. The change is most apparent at the middle portion of the lower segment and in the median line, the sides of the organ being much firmer and more resisting.

Compes makes the examination as follows: The thumb is introduced into the vagina until it reaches the cervix, and the index finger into the rectum until it reaches beyond the ligamenta sacro-uterina; the other hand is placed over the abdomen immediately above the symphysis and pressed down towards the finger in the rectum. The rectal finger explores the cervix and the lower uterine segment in all its parts, and lastly, the higher parts of the uterus. The ex-

amination is facilitated by pulling down the uterus with a volsella and evacuating the bladder and rectum. While this is undoubtedly a very thorough mode of examination, it is repulsive both to the patient and physician, as well as a difficult and hazardous procedure. It is certainly possible in a great majority of cases to make out all that is necessary with a finger in one of the culs-de-sac and the other hand externally. In urgent cases, where this does not satisfy the physician, it would be quite proper to make the examination as above described.

Compes has examined a number of women, found the sign present, then put them under an anæsthetic and still found it present. He says the softened and enlarged uterine segment above the cervix has often been mistaken for a tumor, and that, in fact, laparotomy has been performed under this delusion.

There are two states which may simulate this condition, viz.: distended bladder and the uterus distended with menstrual blood. A distended bladder can and should be evacuated. An imperforate hymen or vagina, or the history of the case, would soon dispel the other question. Hyperplasia would show increased density. Sub-involution increases the longitudinal as well as the transverse diameters. The obstructed circulation from an anteflexed uterus does not impart that feeling of resiliency and compressibility. In marked retroversion it is more difficult to palpate the corpus uteri, and the sign may fail. Here also it is proper to examine per rectum.

Dr. Reinl, formerly assistant to Hegar, has reported six cases; by letter he tells of extended experience as follows: "Among twenty-two cases I missed this sign but twice, and found it earliest in the fifth week of pregnancy."

Dr. Compes, present assistant to Hegar, reports eight cases.

Dr. E. H. Grandin, of New York, has reported twelve cases. In a letter to me since this report he says: "Since the writing of my paper I have had six additional cases, all corroborated, and one of these a case of retroversion. . . . Personally, therefore, I record myself as being able to make the diagnosis prior to the eighth week by Hegar's sign alone."

My experience has been so recent that many of the cases have not had time to prove themselves. I will mention but two, one in which the sign was absent, one in which it was present.

Case 1.—Mrs. B., a widow, æt. 37, came to me March 20, 1886. She acknowledged the opportunity and feared herself pregnant, not having seen her menses for twelve weeks. I examined her for Hegar's sign, but failed to find it. I told her I did not think she was pregnant. Gave her tr. ferri chloridi, and asked her to return in a few days. She returned three times, each time expressing great fears of pregnancy. Each time I examined her, failed to find Hegar's sign, assured her she was not pregnant, and continued the iron. April 1st the menses reappeared, and were normal in amount and duration.

Case 2.—Mrs. R., a young married woman, æt. 20, a delicate blonde, the mother of one child æt. 2 years. She had been absent from her husband four months visiting her parents at Washington, D. C. She last had her menses January 15, continuing five days, normal in amount and conduct. She returned to Cincinnati and her husband February 9. March 5 Dr. Ransohoff was called, and finding the case to be gynecological, referred her to me. She had not had a return of her menses since the middle of January. The nature of her case required a digital and specular examination once, twice or thrice weekly. March 10 she was slightly sick at the stomach. This had not occurred before, and did not recur, nor any other sign indicating pregnancy, besides the cessation of the menses, before the sixth week after her return to her husband. During the sixth week I made three careful vaginal examinations, and at each one was sure I found Hegar's sign present. I assured the patient that I was quite confirmed in the belief that I had frequently expressed to her, viz., that she was pregnant. On March 30 she complained of not feeling well. On the morning of March 31, the forty-eighth day after her return, she passed a large quantity of blood and a membrane, which she saved and showed me. This proved to be the major portion of an ovum, the remainder of which was found within the vagina.

Dr. Palmer, of Cincinnati, informs me that he regard's Hegar's sign as possessing the greatest value in diagnosticating early pregnancy, especially taken in conjunction with the change of position, at first sagging, then increasing anteversion at the end of the second and during the third month, both incident, of course, of the pregnancy.

As the shape of the uterus, enlarged by pregnancy, is one peculiar to that state, and is an enlargement largely confined to the body of the organ, it can thus be differentiated from the enlargements due to sub-involution, chronic metritis with hyperplasia or hypertrophy, or fibroid infiltration. The enlarged uterine body from pregnancy is likewise less dense than from hyperplasia or an intra-mural fibroid, and, to touch, presents a much greater degree of uterine pulsation.

In all these last named morbid conditions almost surely there will be a menorrhagia in some form, or a metrorrhagia, or both. It is extremely rare for a fibroid infiltration to involve both anterior or posterior walls alike; the enlargement is symmetrical.

The peculiar enlargement of the uterus described by Hegar, but noticed often by many before his description appeared, is best detected in the normal anteverted position of the uterus. Retroversion prior to pregnancy, as malposition is usually increased by pregnancy in the first month, presents conditions rendering it more difficult of recognition.

There remains to us, then, to again lament our inability, in many cases, to make a positive diagnosis of early pregnancy, to mourn the fallibility of the old and many of the new symptoms, to especially recommend the sign of Hegar, which until now has proven itself impregnable, and to plead for investigators in a field which should not be "barren or unfruitful."

VACCINATION, AND ITS PROTECTIVE QUALITIES AGAINST SMALL-POX.

BY D. H. BATCHELDER, M.D.,
OF PROVIDENCE, R. I.

Just ninety years[1] ago Jenner took virus from the hand of Susan Nelmes, who was or had been infected by milking her master's cows, and inserted it into the arm of James Phipps, a healthy boy about 8 years old. The boy passed through the several stages of vaccination in a most satisfactory manner, with pustules perfectly well developed and matured. But with this gratifying result the full test originally aimed at and so ardently desired by the distinguished discoverer, was yet but half complete. It was still needful and, indeed, all-important, to ascertain as a certainty whether or not the boy was made by this operation secure from the contagium of small-pox. Consequently, early in the following July, Jenner inoculated the boy with pure variolous matter taken immediately from a pustule. This operation was entirely abortive; not a sign or symptom of small-pox could be discovered. And I think it pertinent that May 14, 1796, be set down in the history of Medicine as the birthday of Vaccination, and its anniversary day. What the immortal Jenner did by his own hand, and sealed by his life-long and well-earned integrity, together with the then existing facts on which the discovery was based—and announced fully a century ago—should alone have been sufficient to settle the matter logically beyond a doubt. But it must still be regretted that there are still those who do not believe in vaccination. There is, in fact, quite a number outside the great mass of believers who still entertain negative ideas, and are rather skeptical as to the virus of vaccination as a protection against small-pox. And there is a larger number who are disposed—perhaps honestly—to associate with its peculiar workings within the system a large share of the morbid humors that are likely to be constitutional or otherwise; as though it sought outside of its own legitimate sphere of action some morbid ally, through which it might strengthen its power to accomplish mischief.

I now wish to record some experiments made by the writer with a view to the further substantiation of the doctrines announced by Jenner. These experiments were made twenty years ago, in April and May, 1866. They were written down as observed, and have remained under an unbroken seal until this day, May 14, 1886. I hope to prove by the result of these (I must say daring) experiments enough to convince candid minds, as I am convinced, of the fallacy and incorrectness of such vague and untested ideas. I well know that the world is not made up entirely of positives; and that there are some reasonable and tangible negatives. Yet, I am ready to say that I believe that the science of vaccination has reached a point, where it now stands, based upon experimental facts, and it is worthy of the confidence of the public. Considering the magnitude of the claim of the subject, it seems strange there could be found, after almost a century of faithful trial, one person who would have the courage to even hint at an objection that might seem plausible. No person need study the history of small-pox farther than two hundred years in the past to learn of the ravages of the disease throughout central and southern Europe, where cities and villages were well-nigh depopulated. How can such a condition compare with the present? The disease is no longer there; it has nearly lost its hiding place. Its course is easily obstructed, and if it is not entirely subdued it is in measure deprived of its former terrors. It no longer depopulates cities and communities by tens of thousands; if it find its way into a city or town its "arrow of death" may be easily unbarbed, and its poison so neutralized that it soon dies out for want of susceptible subjects.

Sixteen years ago, while in conversation with Sir James Y. Simpson, just before his death, he said that "two hundred years ago where there were one thousand deaths from small-pox there are not twenty-five now, statistically; and this difference has been the effectual result of vaccination." Sir William Stokes, of Dublin, also said to the writer in 1870, that small-pox had lost 90 per cent. of its death-rate during the past one hundred and fifty years. Is there any other way to account for this difference than by the effect of vaccination?

During the year 1865, at the close of the late war, I was in charge of the health department of the town of Cranston. I was aware that the people of the place must be liable to exposure, and at times come in unavoidable contact with persons from whom they might contract small-pox. I therefore proceeded to vaccinate the people of the town. In the town was a wealthy man who made considerable pretentions to scientific attainments, but he absolutely refused to have his children vaccinated. I therefore resolved that I would once more test the protective qualities of vaccination. The virus used for the town vaccination was obtained from Dr. Henry A. Martin, of Boston, and at that time it must have been humanized virus.

In January, 1866, small-pox made its appearance in Cranston, and during the first eight months there were twelve families that suffered more or less from the disease. In this time there were thirty-nine cases in all, with three deaths. As I had vaccinated almost all the town the autumn before, the people were, as a class, well prepared for the disease. It was a year in which a large number of discharged soldiers were wandering over the country, looking for friends or relatives. In the town was a Swedish family, consisting of father, mother, and two boys. These were visited by a young Swede who came direct from New York City; he was not well when he arrived, became worse, and when I was finally called in I found a case of small-pox, four or five days advanced, with a profuse crop of pustules on the face and body. I found that no one living out of the house had been exposed to this person, and then I put a flag on the house, and shut off outside communication.

Here, I thought, was an excellent opportunity to carry into effect my determination to test the efficacy of vaccination. The two boys in the family were robust and healthy, one 10, the other 8 years

[1] May 14, 1796.

of age. I had vaccinated them the autumn before, and it took well. On the next day, about the sixth or seventh day of the disease, finding the pustules on the face pretty well filled, I charged six quill-points from the pustules on the face. I told the mother, who, with the father, had had smallpox in Sweden, that I thought it an act of prudence to inoculate the boys. She at once gave her consent, not knowing the difference between this and vaccination. I then inserted three quills into each left arm, the quills, charged from the variolous pustules. The boys were allowed free access to the patient's room, and I made daily observations on them for eight days, consecutively.

Second day, 12 M.—No change whatever in either boy; appetite good, no fever, no pain, pulse normal.

Third day, 12 M.—Slight acceleration of temperature in the older boy—98.5; pulse 78, complains of slight pain in head and back. Appetite pretty good; slept well. There was no change in the condition of the younger boy.

Fourth day, 12 M.—No material change from the condition of the day before, save that the older boy had less pain in the head and back. Both ate and slept well.

Fifth day, 12 M.—Condition of both boys apparently natural. The older boy was in what might be called his normal physiological condition. Neither one complained of pain, both ate well; there was no fever; pulse normal.

Sixth day, 12 M.—Same condition as day before. Wounds on arms have died out.

Seventh day, 12 M.—Same condition. Both perfectly well.

I felt sure that they had been thoroughly protected by the vaccination of the autumn, as they had now passed safely through a two-fold exposure. Could there have been a more satisfactory test?

In the latter part of May, 1866, I was notified of a suspected case of small-pox. On visiting the house I found a man, a discharged soldier, who had just arrived in Cranston, suffering with small-pox, with a crop of pustules at least five days advanced. I determined to again try the protective value of the autumn vaccination. The opportunity was as favorable as the one already related. The family of the house consisted of a man and wife, and four children—three boys and a girl. The parents had had small-pox in Norway, and I had vaccinated the children seven months before, and successfully.

They were well developed, healthy and robust children, the boys being 11, 9, and 5 years old, and the girl 7. Since the outbreak of the case no one had been into the house from outside. On the second day the pustules on the face were pretty well filled, and I charged a dozen or more quills with pure viscid lymph from the pustules on the face. The next morning I told the mother that I would revaccinate the children. She did not object, and I inserted three quill points into the left arm of each child.

Second day.—There was perhaps a slight increase in the heart's action in the oldest boy and the girl.

Third day.—No. 1 (oldest boy), wounds very little reddened, and slightly elevated. Pulse 76, temp. 98.5. No fever. No. 2 (second boy) complains of some headache. Pulse 78, temp. 99, wound reddened, and surface covered with a dingy rash. Tongue slightly coated. No. 3 (girl) complains a little of headache; otherwise but little constitutional disturbance. Pulse and temperature slightly above normal. No. 4 (youngest boy) has on the arm a very light rash of a brownish aspect; complains of itching. Pulse 80, temp. 99; tongue coated; some headache and backache; not craving food. Some fever.

Fourth day.—No. 1 complains of slight pain in back. Pulse 76; temp. 98.5. Wounds a little elevated, but no perceptible fever. Takes food as usual. No. 2 complains of pain in head and back. Face a little flushed; pulse 80; temp. 99. Urine a little colored, and slightly reduced in quantity. Rash fading away. Tongue slightly coated. Goes about house and takes some food. No. 3 does not complain of any pain; head feels a little dull; wounds drying up; no fever, and but little constitutional disturbance. Pulse a little quickened, but temperature normal. No. 4. The surface is less itchy, and the brown eruption is leaving. Pulse 78; temp. 99. Wounds a very little reddened. A few pimples have appeared, two on the arm and three or four on the chest; some pain in back; urine a little reduced in quantity; but little general fever. Relishes food.

Fifth day.—No. 1 complains of no pain; has no fever; pulse 76; temp. 98.5°. Skin natural, wounds healed and scaled off. Has a good appetite and goes about house whistling. No. 2 complains of slight pains in back; some febrile action; pulse 78; temp. about 99; urine somewhat improved in quantity and color; eruption all gone; skin a little dingy; tongue cleaving a little; wounds not pustulated, but fading in color. Is about the house most of the time, and has a desire for light food. No. 3—Condition of general system normal; wounds dry and scaling off; tongue clean; pulse 75; temp. normal. She rests well and wants to eat. No. 4—Eruption all gone, although the skin still looks dingy. Pimples about the same; pulse 78; temp. a little elevated; wounds about same as yesterday. Pains mostly gone; fever much less. Is around the house and takes food.

Sixth day.—No. 1 appears well; wounds entirely healed; no inflammatory or febrile action; pulse normal; temp. normal. Prescribed a small quantity of sulph. magnesia and pulvis rhei. No. 2 is having no pain to-day, and is apparently free from fever; pulse 76; temp. 98.5; skin clearing; wounds healed and scaling off; urine becoming more normal; appetite good, and he rests well. No. 3 seems perfectly well; wounds healed and scaled off; no fever; general system in a normal condition; skin perfectly clear and healthy. No. 4 has no pain; wounds drying up, not pustulated but scaling off; pimples dry, with scales over them; febrile action has abated in a measure; skin clearer. Wants to eat, and is around the house.

Seventh day.—No. 1 is well in every respect. No. 2 has no fever, no pain, rests well and eats well; pulse and temp. normal; skin pretty clear. Ordered sulph. magnesia and pulvis rhei. No. 3 has no pain; no fever; urine clear; wounds well and smooth; tongue

clean and appetite good. No. 4—general condition normal; wounds perfectly smooth and well. Appetite good, and apparently perfectly well.

On the eighth day all the patients were well and around the house, apparently in as good condition as before the inoculation.

The foregoing embraces the history of six test cases in relation to the vicarious action of vaccine virus on the human system as a protective agent, inasmuch as it renders the system insusceptible to the primary lodgment or incubating action of the agent that communicates small-pox. I do not know that there is anything further to say than a few words necessary to clear away from the mind of the reader everything that might, unexplained, obstruct or cause to arise in his mind negative inquiries that might perhaps lead to unjust criticism. It should be distinctly understood that these six children were about what we would select as being quite as susceptible and as likely to imbibe any one of the morbific agents that represent the more virulent contagious diseases. They were, without exception, well and perfectly developed, and, as their histories showed, they had enjoyed physiological health without interruption; they were, therefore, perfectly safe and proper subjects upon which to make these tests for the purpose of obtaining incontrovertible results by experiments. In the second place, it cannot be denied that they had passed through the preparatory process of ordinary vaccination six months before in its most simple manner; and consequently were not prepared to order for such experiments, and no one had any knowledge of what might or would follow in six months.

These facts, when viewed in their proper light, at once place the whole transaction on a firm basis, and establish it as an occurrence under circumstances purely accidental. And, viewed in the above light, the matter must remain free from ordinary criticism so far as its being a fair test is concerned.

In relation to the exposures of the children during the experiments: they were of a two-fold nature. The subjects of the experiments were, after small-pox was introduced into their homes, exposed during every hour, and at a time when the disease was at its height of virulence. And secondly, no greater exposure could occur than to subject them to the introduction, into their systems, of the virus taken from the pustule. These facts must, then, stand upon a firm and well tested basis; and I hope they may be considered as a step in favor of the science of vaccination.

UNION OF A FRACTURE OF THE FEMUR, IN A GIRL OF FOURTEEN, AFTER TWO YEARS.[1]

BY S. MARKS, M.D.,

OF MILWAUKEE, WIS.

Miss J., aged 14 years, who was suffering from a fracture of the right femur, of five month's standing, consulted me on the 5th of December, 1882. Her general health seemed to be excellent; but the muscles of the lower portion of the thigh were shrunken, there was absolute anchylosis of the knee-joint, and the limb was shortened a little more than an inch. The point of the fracture was at the junction of the middle and lower thirds, where there was great mobility, but no soreness; there was little or no change in the bone.

The history of the case revealed a succession of incidents affecting this unhappy femur—two apparent fractures at an early period, with long delayed union and complete anchylosis of the knee-joint; the protrusion and removal of a section of the bone at a later period; and another fracture, still later, with still longer delayed union and the condition already described.

The history of the earlier fractures, as told by the father, is the following: When 2½ years old the girl fell from a high chair, fracturing this right thigh bone at two points—one immediately above the knee-joint, and the other some three inches higher. A surgeon immediately applied splints, but the bone failed to unite; and some six months from the date of fracture a fragment of the bone was found protruding through the flesh. It proved to be a detached section of the lower portion of the bone, some three inches long. After its removal the soft parts healed kindly, and a little more than a year after the fracture was sustained the child was able to bear her full weight upon the limb. The muscles of the thigh at this time were shrunken, the knee joint completely anchylosed and the limb shortened half an inch. From this time on the child enjoyed perfect health, the limb giving her no trouble further than the inconvenience caused by the anchylosis. No doubt the fracture described by her father as taking place immediately above the knee-joint, was the separation of the epiphysis from the shaft of the bone.

Years later a second accident involved this unlucky femur. Thrown from a buggy when eight miles from her home, she sustained a fracture at the junction of the middle and lower thirds. This was on the 29th of June, 1882, when she was 13 years and 7 months old—about five months before she put herself into my hands. A country practitioner applied a long splint, and the next day she was driven to her home in a wagon Owing to her restlessness, the doctor found it necessary to redress the limb every three or four days. At the end of two months there was not the least union of the bone, and he discarded the splint and applied a light plaster-of-Paris bandage from the foot to the hip. For two months this dressing remained on undisturbed, at the end of which time it was split open and the limb found to be in the same condition as when it was applied. There was absolutely no trace of a union. The same dressing was reapplied and was not disturbed up to the time I was consulted.

Upon removing the dressing, five months after the accident, I found the condition already described—great mobility at the point of fracture, a shortening of the limb by a little more than an inch, and the atrophy and anchylosis which had continued from the time of her first accident. After rubbing the

[1] Read in the Section on Surgery at the Thirty-Seventh Annual Meeting of the American Medical Association.

fractured ends together with considerable force, a closely fitting flannel drawer-leg was drawn over the limb; and while extention was being made, a very heavy plaster bandage was applied, as snugly as was thought compatible with safety, extending from the foot up to and embracing the hip. After the plaster was thoroughly dried, she was placed in a wagon and taken to her home, twenty miles in the country. I directed her to move about on crutches and to bear all the weight she could upon the fractured limb. Although her father had promised to keep me informed as to her condition, it was nearly two years before I heard from the case again, and then accidentally and indirectly, to the effect that the bone had united and that she was walking without the aid of crutches. I immediately wrote to her father and in time received an answer from the young lady herself, giving the history of her case from the time I applied the bandage. For more than a year the dressing, which gave her great comfort, had not been disturbed, and she had followed my directions as to bearing what weight she could upon the limb. At the end of this time the bandage was cut open and sprung apart far enough to permit the limb to be examined. There was still a measure of mobility at the point of fracture, although very much less than when I had applied the dressing. The bandage was tightened again by rollers, and after that the limb was examined from time to time. In July, 1884, the motion at the fracture was hardly perceptible, and a month later the union seemed to be complete. This was between twenty-five and twenty-six months from the date the fracture was first sustained.

Since the above was written, the physician who treated the young lady immediately after the accident and who had her under observation after I applied the bandage, has informed me that her account is essentially correct: that the union of the bone is firm; that the limb is an inch and a quarter shortened, but that she is able to walk with ease and comfort.

The occasional instances of delayed union in the long bones, commonly limited to a few weeks beyond the usual period of consolidation, are almost always due to constitutional debility rather than to local causes—excluding cases of unnecessary meddling with the fracture. Almost always there is a constitutional taint. But in this case of extraordinary delay—extending far beyond any that has ever come under my observation—there was no evidence in the appearance of the subject of malnutrition. On the contrary, during the entire period she was apparently in perfect health. Her father was healthy, but her mother had suffered from epilepsy for more than twenty years. While, without doubt, the want of fixation of the fragments of the bone in apposition had something to do with the extraordinary delay, the fact of the delayed union in the fracture sustained when she was a child, and the delay in the second fracture even after the final bandage was applied, together with the atrophy of the muscles, indicate a local cause as an important factor. It is evident that there was a lack of proper nourishment in the lower portion of the femur and the tissues in that region, even while the general nutrition was excellent.

The case shows the possibility of union being delayed in fractures of the femur, even in youthful subjects, not only for months but years, and of finally uniting without surgical interference.

A SUPERIOR WISDOM TOOTH DISCHARGED FROM THE NASAL PASSAGES; WITH REMARKS.[1]

BY JOHN S. MARSHALL, M.D.,
OF CHICAGO, ILL.

I am indebted to Dr. Emma F. Gaston, of Chicago, a member of this Association, for the history of the following very remarkable case, and which I present with a few remarks in explanation of the peculiar symptoms, the probable course taken by the tooth, and which finally resulted in its being discharged from the posterior nares.

"Mrs. B., aged 62, in October, 1884, suffered intensely from what she supposed to be 'a severe cold in the head.' The pain in the right orbital region was at times excruciating, but not more severe than she had often experienced in other portions of the face and right ear, during the previous ten years. Attacks of facial neuralgia and otalgia had been so frequent during these years, that she had become quite disheartened and had no expectation of ever being freed from them.

"Medical aid had only temporarily alleviated her suffering, and she had become 'tired of consulting physicians' about 'neuralgia.' In this attack the usual domestic remedies for a cold, and an anodyne application for neuralgia had been resorted to without alleviation of symptoms. The right nostril became slightly swollen and completely obstructed. Breathing was almost impossible when the lips were closed.

"After a few days of discomfort, the patient made an unusually great effort to relieve the nostrils, by alternately coughing, and blowing the nose. Suddenly she felt something fall upon her tongue. Spitting the mass into the wash-bowl, she heard a clicking sound, which caused her to examine it. Imagine her surprise at finding a large right superior wisdom tooth covered with fetid pus. The relief of the facial pain was immediate, 'the cold in the head' was explained, and probably much of the 'torture' she had endured periodically for years, was also accounted for.

"This very unexpected experience led the patient to recall an incident which occurred about twenty-six years before. In the year 1854, thirty years previous to the expulsion of this 'eccentric tooth,' she had all her upper teeth removed. Wore a 'temporary set' of artificial teeth for several months, then had a 'permanent set,' on gold plate, which she wore with great comfort, for four years. Then a tumefaction appeared upon the right superior maxilla, near the tuberosity; and she jested about 'cutting a wisdom tooth.' Consulted her dentist about the 'plate.' He found that in perfect condition, and assured her there was no prospect about a tooth, and was unable to assign any satisfactory cause for the suffering.

[1] Read in the Section on Dental and Oral Surgery at the Thirty-Seventh Annual Meeting of the American Medical Association.

"After a few days the annoying swelling and tenderness disappeared, and from that time until 1884, no thought was ever given to those unexplained symptoms.

"In May, 1884, the patient suffered from an abscess in the right ear. After the abscess ruptured an unusual amount of hæmorrhage from the ear occurred. The patient became very much weakened by it, and a physician remained at her bedside for hours.

"Previous to this date she had gradually lost the power of hearing on that side, and was afterwards totally deaf in that ear. There had also been a slight fetid discharge from the nasal passages for several years, but which was supposed to be the result of a simple catarrhal affection."

Remarks: It would seem from the foregoing history that all the pain and discomfort in the right facial region endured by this lady for so many years, was the result of this erratic tooth, and the explanation I would offer is as follows:

The swelling and tumefaction mentioned as having appeared at the posterior portion of the right superior maxilla about five years after the extraction of the superior teeth, viz., twenty-five years ago, was undoubtedly caused by the eruption of this tooth, (and it must have been formed in an inverted position) which, taking a direction upwards and forwards, finally pierced the floor of the antrum of Highmore. The disappearance of the tumefaction, and all unpleasant symptoms speedily passing away, would I think, be a fair inference that this was what occurred. The tooth must, however, have remained in this position for several years, as I think the condition of the tooth would strongly indicate, for you will notice the crown is covered with a thick dark-brown deposit which is very rough upon its surface, while upon its roots there is considerably less, and they have the appearance of being exposed to the effects of the antral secretions for a much shorter period of time. The aural abscess, and this tooth, I think have a very close relationship as regards cause and effect; and I am of the opinion that the abscess in the ear was the result of an abscess at the roots of this tooth, and which discharged its contents into the meatus, and at the same time freed the tooth from its crypt in the maxillary bone and left it loose in the antrum.

The tooth being loose finally found its way to the anterior portion of this cavity and lodged there, and by contact with its nasal wall produced ulceration of this and the inferior turbinated bone, and thus found its way into the nasal passages and into the mouth.

The slight catarrhal (?) discharge which had been persistent for so many years was without doubt the result of the presence of the tooth in the antrum. The record of the case is valuable from the fact that it explains an obstinate case of persistent neuralgia of the trifacial nerve, and indicates the probable cause of a severe aural abscess. The symptoms of the case were, however, so obscure and indefinite in their character as to give no indications of their real cause, and the presence of a tooth or other foreign body in the antrum was not even suspected.

242 Wabash Avenue.

MEDICAL PROGRESS.

ARSENICAL TREATMENT OF MALIGNANT TUMORS.—DR. F. KOEBEL, of Tubingen, reviews the results obtained at the Tubingen Clinic (Prof. Bruns) in the treatment of certain malignant neoplasms by means of internal administration of arsenic.

As regards epithelial carcinomata various experiments were made at one time or another in inoperable cases of mammary disease, with local injections of arsenic; but in no cases were favorable results recorded.

Sarcomata, excepting those of the lymphatic glands, have likewise generally been regarded as incurable by means of arsenic. But the author gives a case of a man 39 years of age who presented multiple sarcomata in rapid growth when admitted to the hospital, and who was completely cured after three and one-half years' time by combined local and internal administration of arsenic. The diagnosis was assured by microscopical examination of an exsected portion.

Lympho-sarcomata were not influenced in their course by arsenical treatment, as was proved by the observation of several cases.

The greater part of the paper is devoted to the consideration of malignant lymphomata, in the treatment of which arsenic has always played a conspicuous part.

In order to draw more correct inferences the author first reviews fifty-two cases collected from various sources, and then adds to this number seven cases of Prof. Bruns. He then proceeds to draw his conclusions. The ages of the patients varied equally between 7 months and 72 years. Males were twice as frequently affected as females. In twenty seven cases the neck alone was affected, in thirteen cases the whole body. Statements as to the presence of leucæmia are incomplete. The treatment consisted in internal exhibition of Fowler's solution, increasing to a maximum of 40 to 45 drops daily, and in parenchymatous injections, gradually ascending to 0.4 or 0.5 ctm. daily.

As to the results attained complete cure was observed in seventeen out of the fifty-nine cases; but in five of these, recurrences are recorded; in the others no further notes are made. The time elapsing before the cure was complete varied from one to six months. Recurrences varied in the time of their appearance from two to eight months.

In fourteen cases the recovery was partial. In twenty-eight cases out of the 59, the treatment was altogether ineffectual. In some cases, however, the time allowed for observation was too short.

The author concludes that the treatment should be continued for at least two months in order to ascertain whether it will prove of avail or not, and recommends the trial of medicamental treatment with arsenic in all inoperable cases of malignant lymphoma, and in certain ones of general sarcomatosis. Although many cases are not cured, some brilliant results have been obtained by this method.—*Beitr. z. klin. Chir. Mitth. aus d. Chir. Klin. zu Tüb.* II. Bd. 1. Hft. 4.—*Annals of Surgery*, September, 1886.

FATAL RESULT OF PEROXIDE OF HYDROGEN INJECTIONS.—A Norwegian surgeon, DR. LAACHE, has reported a case in which a fatal result followed an injection of peroxide of hydrogen into the pleural cavity. The patient was a man 28 years of age, who had had a portion of the ninth and tenth ribs resected. for empyema. The operation had been successful and the wound progressed favorably, and two months after the operation there remained only a fistula about an inch and a half long. In order to hasten the healing of this, hypodermic injections of a 3 per cent. solution of peroxide of hydrogen were resorted to, as this method of treatment had given very satisfactory results in two somewhat similar cases in which it had been tried. Six injections, each containing 0.8 cubic centimetre of the solution, were administered without any particular effect. At the seventh however, the patient complained of pain and faintness, the pulse failed, the respiration became oppressed, clonic contractions occurred in the right arm, the head turned to the left, the jaws became tightly set, the face became cyanotic, and the patient died in ten minutes. The necropsy, which was not made till forty-eight hours after death, revealed nothing very striking. The heart was dilated, and contained liquid blood without air bubbles; some ecchymoses were found in the parts of the left lung, which were adherent to the chest walls. In the fourth ventricle of the brain an ecchymosis the size of a pin's head was seen. A number of air bubbles were present in the blood of the hepatic veins, and some were seen on cutting into the spleen and kidneys. The cause of death was therefore by no means clear. Dr. Laache suggests that it may have been the small extravasation in the fourth ventricle or shock. Dr. Wulfsberg, who took part in the discussion on the case at the Christiania Medical Society, thought it was probably due to the introduction of the drug into the circulation. He thought that the strength of the blood current might have carried the peroxide, if introduced into a vein, through the right heart and lungs almost unchanged, but that afterwards more oxygen might have been disengaged than the blood could absorb, and bubbles were thus produced, which may have been the immediate cause of death. Where animals have been subjected to injections of air into the veins bubbles are not always found in the blood. In these cases Dr. Wulfsberg thinks that death has been due to paralysis of the heart, for when examinations have been made immediately after death bubbles have been found in the coronary arteries. As so long a time had elapsed before the necropsy in Dr. Laache's case, these might have been absorbed.—*Lancet*, Oct. 9, 1886.

HYPNOTIC PROPERTIES OF BOLDO-GLUCINE.—Dr. René Juranville, of Paris, has published as a graduation thesis an account of some experiments and observations on boldo-glucine, an aromatic substance of the nature of a glucoside, obtained by M. Chapoteaut from the leaves of the pneumus boldos, or boldo fragrans, a plant belonging to the mominiaceæ, which has from time immemorial been employed by the natives of Bolivia, Chili and Peru in hepatic diseases. The boldo-glucine used by M. Juranville is not the same substance as boldine, which is an alkaloid existing in very small quantity in the leaves, and which was isolated in 1874 by MM. Cl. Verne and Bourgoin. The observations were directed to the hypnotic action of the glucoside, and were conducted on both animals and human subjects. Dogs were sent to sleep by intravenous injections of boldo-glucine, in quantities of from two to seven grammes. Observations were taken and curves constructed, showing that during the sleep produced the cardiac beats increased in rapidity, while the amplitude of the pulsations diminished; the arterial pressure was not affected. M. Juranville also gathered from his observations that anæmia of the brain was produced. His therapeutic researches were conducted on insane patients, the doses given being from 22.5 grains to 2 drachms, the substance being enclosed in gelatine capsules or introduced by means of enemata. It was not found easy to administer it in the form of draughts on account of their powerful odor. It gave rise to no disagreeable symptoms, and, indeed, appeared to stimulate the appetite and the digestive functions. The hypnotic effect was very definite, ten patients on whom it was tried being all sent to sleep, and in some cases their hallucinations being removed; the effect was not, however, permanent, the sleeplessness and hallucinations returning on the cessation of the treatment. M. Juranville concludes that though boldo is not a perfect hypnotic, it is likely to prove valuable in cases of neurotic or maniacal insomnia when other drugs have been tried without effect. Further study of its action is, of course, required before any very decided opinion as to its efficacy can be expressed.—*The Lancet*, October 16, 1886.

ANTISEPTIC PAPER DRESSING.—DR. DON ANTONIO MORALES PEREZ describes in the *Revista Médica*, of Seville, a simplified antiseptic or Listerian dressing consisting of bibulous paper heated to 110° C. and soaked in a solution of carbolic acid, boracic acid, or corrosive sublimate. This is placed over the wound in about eight layers, and covered with sheet gutta-percha or mackintosh, the whole being secured by an india-rubber bandage. The writer claims for this dressing the advantages of cheapness and portability, and thinks it will be found very serviceable in the field and in small hospitals.—*Lancet*, Aug. 21, 1886.

TREATMENT OF TYPHOID FEVER.—DR. F. PEYRE PORCHER, of Charleston, gives the following formula for a "fever mixture:"

Spirit of nitrous ether	½ oz.
Potassium acetate	1 or 2 drachms.
Potassium chlorate	1 drachm.
Solution of ammonium acetate	1 oz.
Tincture of aconite	½ drachm.
Camphorated tincture of opium	2 or 3 drachms.
Water	to 4 oz.

A dessertspoonful to be taken every two or three hours as long as there is fever. Potassium bromide or morphine may be added if there is great restlessness or want of sleep.

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THE EDITOR OF THIS JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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THE ABUSE OF INTRA-UTERINE MEDICATION.

Such is the title of an interesting paper read at a recent meeting of the Alumni Association of the Woman's Hospital, of New York, by DR. BACHE MCE. EMMET. The subject which he discussed in the paper was that of uterine discharges, their nature, significance, and the indications for treatment furnished by them. He thinks that it is the general practice among the profession at large to mistake a symptom for a disease, and to treat it as such, in dealing with uterine discharges. Leucorrhœa, for example, is too often looked upon as a nosological entity, and actually as an individuality by the non-specialist; and he too often treats it as an ailment having one cause, its own special pathology, and a definite and positive course to be invariably run. There are very many practitioners who, when informed that a patient has leucorrhœa, recommend a wash or injection of some astringent, trusting that in some way it may hit the mark aimed at. The specialist, on the other hand, may think that "whites are whites," and that they must be attacked as such; and though he usually examines the discharge he sometimes wastes his time in speculating on the manifestation, without seeking the true cause and attacking it.

In dealing with uterine discharges the first thing to do is to make a proper classification; and Dr. Emmet gives the following: 1. Aqueous, serous, and mucous, forming in their combinations, milky, gummy, and ichorous. 2. Purulent. 3. Muco-purulent. 4. Sanguineo-purulent. 5. Bloody. 6. Bloody with mucus. "Aqueous discharge, which may be slight or abundant, at intervals or constant, bland or acrid; what does it import? With it, especially if it has persisted for some time, we shall find the os uteri slightly open, the lips possibly a trifle everted and somewhat eroded, the cervical substance, in all likelihood, to some degree softened, the crown flattened from pressure upon the floor of the pelvis, the woman complaining of weight about the back, hips, and perineum, with a sense of heat either forward toward the bladder or low down in the back; even a desire to micturate often, together with, at the first, a tendency to constipation, later on the bowels being too free. The patient may give the history of having had some febrile movement, but it was slight, did not make much impression; at any rate, there is nothing of it present now; we have but local symptoms to deal with. An accurate observer will not content himself with having noted this much. He cannot, from seeing such a discharge, establish a positive diagnosis. It would be worse than indifferent reasoning for him to hold that, because there is a flux from the uterine mucous membrane, therefore it is diseased, and worse than indifferent practice for him to attack this lining membrane as the offending organ and blind himself to outlying conditions. Will he now explore the pelvis, he will find something positive to guide him, or he may find merely enough to corroborate or to overthrow a mental diagnosis made. Either he will find the pelvis engorged and tumid, the parts lying about the uterus œdematous and soft, the uterus only slightly enlarged, indicating a condition of *recent acute cellulitis*, or he will recognize that the uterus is enlarged beyond what the patient's history can in any way account for, be she multipara even, with subinvolution and all the attendants on multiple labors, and his mind will of necessity revert to commencing malignant disease of the body; or, again, the pelvic cellular tissue will be intact, the uterus normal, and he will discover an enlargement off to one side, presumably a dilated Fallopian tube which, somewhat constantly or at intervals, discharges its quantum of watery fluid; yet, even failing to find such an enlargement, the physician must bear in mind that it may have been; also that another possible source is from ruptured ovarian cysts and cysts of the broad ligaments, or from ascites."

The serous discharge must be considered with the aqueous, as it can only be differentiated from it by the various tests brought to bear on, and it will then connect itself with one of the special conditions referred to, especially ascites. "And with any of these conditions," says Dr. Emmet, "what will it avail the patient to have the mucous membrane of the uterine

cavity cleaned off, and then smeared over with a more or less noxious topical application, the whole to be preceded, no doubt, by the passage over it of a steel instrument called a 'sound?' Fortunately for her, in this case, the pathological conditions are mostly inert; but take it with the first instance, where we have the first stage of an acute cellulitis passed, and are now witnessing the transuding of watery fluid from an œdematous uterine tissue, but with the acuteness sufficiently near at hand to be readily awakened and lighted up into a sharp attack, with possibly fatal consequences; for is not the mere passage of a probe a violence done to such a uterus? is not, all the more, an astringent application, for such would surely be chosen in the given case, an offense to a suffering neighborhood? And think of the possibilities were a solution of iodine, however weak, carried to the fundus of such a uterus, the capillaries large, the lymphatics active, the Fallopian tubes erect, with congestion ready to assume violent inflammation on the slightest provocation. And such, unfortunately, is too often the result of like ill-judged treatment. What was in a process of resolution you have arrested on the threshold, and have dammed up fluids which were the expression of the first inflammatory action. Your treatment has intensified the pathological process; you have been the cause of an effusion of lymph which has now set, and the woman feels better. Of course she does, because the parts which would otherwise be tender by motion are now immovable, and everything is one block, so to speak. There is a time to come, however, and that is in the undoing of all this exudation, when the woman is to suffer far more than she could have anticipated, and there is no limit to the pathological developments which your misguided action may have set up."

The mucous discharges are more frequent than any other; and the mucus may be of greater or less amount, thin or thick, viscid or tenacious, each of which qualities and conditions should be carefully noted. "It is such a common thing for the physician, on meeting with such a flux, to at once say, 'Oh, yes, some endometritis,' and to first remove the mucus, either gently with a cotton pledget held in his forceps or twisted on a stick, or if gummy and adherent, by a syringe or piece of hard, dry sponge, and then to run his applicator, charged with medicament, up, no matter how far, into the uterine cavity. Is such a course rational? Can we say that there is endometritis, and if so, is it justifiable to attack a part of the mucous membrane, as that of the body, when in fact it may be absolutely intact and require no interference whatsoever? To establish in such a case that there is endometritis, we should rather feel positive that we have a decided cause for it and that there is nothing outside which is at the bottom of the ailment, this being merely the symptom." Where shall we look for an explanation of this mucus? May we not look upon it as an effort of the vessels to disgorge, and not as a pathological process? And if this be so should not the discharge be watery or at least a thin mucus? "Yes, if we always saw the case in its early stage. Later, and as the cause is maintained, the lymphatics, capillaries, and uterine glands, being constantly called upon to discharge fluid, finally are more and more enlarged; the glands become hypertrophied, and then the material becomes more and more thickened, even to the point of being held in the mouths of the glands, constituting the gummy, tenacious mucus with which we have all had our struggles. By this time the glands may be said to be diseased, and a probe passed over them will even produce bleeding; but they are still diseased as a symptom, and will resume their natural functions once the disturbing cause is removed. They are diseased, and we have endometritis or endotrachelitis, and it may also call for treatment, but it is to be borne in mind that it is only as a secondary effect; otherwise the main factor will be overlooked, and the condition will prove intractable or yield only as time has removed the original cause; or, perhaps, as the treatment for the one may by chance have hit at the other, or again, as in our effort to cure the endometritis by heroic means we may have destroyed the very surface on which the disease has rested, even though, by so doing, we have introduced a still more dreaded element of trouble. Now, if we look further, and at the conditions which manifest themselves by this mucus, we have a scope embracing almost every one of the pathological conditions pertaining to the uterus and its appendages. Perhaps the very commonest of pelvic troubles is some slight amount of subacute inflammation about the cellular tissues in the neighborhood of the uterus or upon the peritoneal folds forming its ligaments. These two conditions, if present in however small a measure, produce a certain degree of prolapsus of the uterus; by the fulness of the cellular tissue or the thickening of the uterine ligaments, the one and the other is shortened or contracts, and, by so doing, they bring down the uterus to a different plane from that which it occupies in the normal state. This in itself doubles capillaries and veins upon themselves, stretching others, and congestion is the result. As has been seen before, the congestion, which is passive, seeks its own remedy by an exosmosis, and we have the

result in the direction of the freest outlet—viz., the uterine canal, in the form of leucorrhœa. Now, again, if this slight displacement is not recognized—and, being so slight, we may readily understand how it may escape detection—and the ordinary treatment, in this case also, is resorted to; see how absolutely futile it is, how positively harmful. How shall an intra-uterine application of an astringent arrest this flux except temporarily? How is it to be productive of any good effect on the cause of the discharge? And we readily see how, as an irritant, it may be productive of increased harm, unless, indeed, the mucus itself protects the lining membrane from the medicament."

However common the mucous discharges may be, the purulent or muco-purulent are seen often enough, and perhaps most frequently in conditions of impaired constitution, anæmia, subinvolution, prolapsus, etc., not to mention the discharge most commonly seen in old cases of injured cervices. Every practitioner must have seen a number of these cases. Should we treat the parts because of the pyogenic condition? "Most assuredly we may; it is a local lesion, and may be largely overcome while still we are busying ourselves about the more general state which has such a positive bearing upon it. It is precisely because of these cases being so common, and their treatment being so self-evident, that we are in danger of error by overlooking other conditions which are simulated by it or which it masks—for instance, a venereal ulcer situated high up in the uterine canal. The discharge will be the same, but how much benefit will attend the true disease if we are directing our attention to the supposed surgical lesion of the uterine canal? And the very application which would prove serviceable in the one case—viz., nitrate of silver or acid nitrate of mercury—we would strenuously shun in the other. How necessary it is, then to do nothing by routine! Every day we hear at the clinics 'Oh, yes, endometritis,' and in goes the swab or applicator charged with iodine, Churchill's tincture, without so much as thought being directed to the patient, much less a further examination to determine beyond peradventure that the diagnosis is a correct one. Again, with an old laceration and subinvolution, the uterine canal containing pus, the same treatment pursued as indicated above; no improvement; recurrent attacks of pain and febrile symptoms, when a more perfect examination leads us to an old pelvic abscess or a chronic oöphoritis which is discharging its contents by the Fallopian tube, and so through the uterine canal. These cases have been known, and it is not too much warning to throw out to practitioners who will do a little gynæcology to tell them to be on the lookout and make an accurate diagnosis."

In a certain variety of affections the muco-sanguineous and sanguineo-purulent discharges are common enough, and it is of great importance to ascertain definitely the precise origin of such discharges. "If we have pure blood flowing, it is needless to tell a physician not to dwell upon a condition of the uterine mucous membrane and content himself with making applications to it. Each and every one will have sought the cause: a displacement, a fibroid, granulations or fungous growths along the line of the canal, obstructed portal circulation through pressure or mitral regurgitation, breaking down of a vessel from ulcerative process, etc. Yet it is right to enjoin upon all to recognize that some such cause lies behind and is at play in every case, though the blood be not in sufficient quantity always of itself to call for the exhaustive examination. At a time when the uterine probe was in more general use—unfortunately, it is still too much handled to-day—it was the commonest thing to see an exploration followed by a drop of blood or two. What did it mean? No one inquired, and only one in many would inquire to-day. But the solution of iodine is passed in just the same, it may be to do good, but much more likely is it fruitless. The mere fact of using an astringent does argue that we consider the mucous membrane congested, but why should we, even in so small a measure, seek to reduce this congestion, which is nothing *per se*, but is the expression of something much more significant? It is true the cause is at times located in the mucous membrane itself—fungous growths, for instance—but many more times does it depend upon a general engorgement of the pelvic vessels, and thus of the uterus also, in which case we are glossing over the surface of vessels, and are as remote from dispelling the true condition as if making use of a medicated inhalation for the relief of a pulmonary congestion."

Pelvic disorders have a uterine discharge as a common symptom, as a rule, more often cervical than corporeal. It must be acknowledged that this condition is too often treated as a disease. Dr. Emmet's paper is one of practical value; and while we may not be able to endorse all that he says, we must look upon his remarks as a timely warning, which it would be well if both specialists and general practitioners would weigh them carefully. Misdirected intra-uterine applications are positively harmful. Why dilate the cervix to make applications when it is apparent that if any disease of the canal exist the cervix will be patulous, and the canal free?

THE WATER SUPPLY OF CHICAGO.

At a meeting of the Illinois State Board of Health, on October 29, DR. JOHN H. RAUCH submitted a report of the water supply and sewage disposal of Chicago, covering twelve months' systematic observation of the varying conditions affecting the water supply of the City, with a chemical analysis every week, and other interesting data concerning the City of Chicago, as well as Hyde Park, Lake View and Evanston. The analyses were made by Prof. John H. Long, and are therefore entitled to confidence.

The report shows that the sewage of the City can be prevented from contaminating the water supply, and that when this is done the City has the best water supply of any large city on the continent, if not in the world.

During June, July and August, careful and complete experiments were made to determine the rate of purification of the water in the canal and Illinois River in its passage after leaving the pumps at Bridgeport. Over one-half of the sewage-pollution disappears before reaching Lockport, twenty-nine miles below Bridgeport, and one-third of the remainder is lost in the next four miles by the mechanical agitation of the water by falls, wheels, locks, etc. At Joliet the pollution is diminished by nearly three-fourths, and is reduced in a proportionate ratio until it disappears altogether. As there was hardly any dilution of the canal during these months the loss of sewage between Bridgeport and Joliet is attributed to oxidization. At Channahon, ten or twelve miles below Joliet, the sewage disappears altogether. A comparison of the analyses of the waters collected at Ottawa and Peoria shows that causes entirely apart from Chicago sewage-pollution affect their purity. Although the free-ammonia determination is always in excess at Ottawa as compared with Peoria, the oxygen consumed figures during the period were greater at Peoria on two occasions, and the mean excess of these figures at Ottawa bears no relation to the excess of the free ammonia determinations. With 50,000 cubic feet of water passing into the head of the canal per minute the [Chicago] main river and the South Branch will be purified; no nuisance will result from sewage at Joliet and below, and the potability of the water in the Illinois River at Peoria will not be in the least affected from that source. An increase of water to 60,000 cubic feet per minute would take in addition the sewage of the North Branch after it has once been cleaned out, and would diminish the nuisance in the South Fork of the South Branch at least three-fourths.

In summer, when oxidation proceeds most rapidly, the minimum quantity would have sufficed; but in winter, when oxidation is retarded by ice formation shutting out the light and air, by the low temperature, and by the impeded motion, it is probable that the maximum dilution would be necessary. Since the time when this estimate was made there has been a decrease of the wastes from certain industries, notably from the slaughter and packing houses. This diminution is likely to continue as these wastes are more fully utilized; so that it is probably safe to assume that the maximum concentration of the sewage effluent of the Chicago River has been reached, and that in the future a lesser rather than a greater percentage of dilution will suffice than the above figures would require.

The problem of preserving the water supply of Chicago and its suburbs from pollution and the inoffensive disposal of their sewage and wastes of all kinds requires that all sewage and wastes be diverted from the lake into the river and its branches; and that there be pumped from the river into the canal, or other waterway, an average of 12,000 to 13,000 cubic feet per minute for every 100,000 inhabitants. The diversion of sewage and wastes into the river will preserve the purity of the lake water even when taken at the present distance from the shore. This continuous pumping of 12,000 cubic feet per minute for every 100 000 inhabitants will effect a prompt removal of sewage from the river and its branches, so largely diluted, that, with the accelerated rate of oxidation caused by the mechanical agitation, it will be rapidly rendered inoffensive in the canal and will under no circumstances affect the potability of the Illinois River water. If the removal from the South Branch be effected by gravity a larger volume must be provided for for obvious reasons.

These are the two conditions of the solution of the problem. All else is a matter of engineering detail, embracing the change of fall of sewers (whether within or beyond the present city of Chicago) now discharging into the lake, or their abandonment and the construction of new ones discharging into pump-wells in low areas, the sewage to be thence pumped into the river; the exclusion or reduction of storm-water and overflow in the river from the Desplaines watershed and from the watershed of the North Branch; the utilization of the canal, or of the bed of the Desplaines, or of both, and other details.

Chief-Engineer Hering, of the Drainage and Water-Supply Commission, returned on October 29 from a tour down the Desplaines River. He reports the sewage was noticeable as far as Joliet, but that a chemical analysis has determined its existence as far

as La Salle. The proposition now being followed by the Commission is to carry the sewage of the city off by way of the Illinois and the Desplaines Rivers. All difficulty heretofore experienced by the overflow of the Mud Lake region during the spring freshets in the Desplaines will be obviated by constructing a canal from the river to Lake Michigan at or about Norwood Park. Mr. Hering is more disposed toward the river plan. It is claimed that oxidation of the sewage can be increased to such an extent that the impurities of the river will not be offensively apparent for any great distance. Mr. Hering will also make a general observation of the fluctuations of the lake, and to obtain correct data as to the operation of the currents there, simultaneous observations will be made wherever the atmospheric influences warrant it—at Chicago, Milwaukee, St. Joe, Grand Haven, Michigan City, and other available points. These observations are valuable in view of the proposition to move the crib further out into the lake. If it can be shown that the crib can be so located as to be beyond the reach of turbid water, and to insure cooler water during the summer, it will be of great benefit.

NEXT ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

As the summer has passed, and the season favorable for literary and scientific work has fairly begun, we desire again to call the attention of the profession generally, and of members of the Association especially, to the necessity of commencing, without further delay, the work of preparing papers and reports for reading and questions for discussion, in the several Sections. The scientific and practical value of the annual meeting will depend almost wholly on the degree of research and faithfulness exemplified by members in completing in good time such contributions as they intend to make. To merely think about it and yet delay actually commencing the work until a few weeks or days before the time of meeting, is pretty sure to result either in doing nothing, or in putting together some ill-considered propositions to be read as a "brief abstract," with the expectation of taking time to write it out for publication afterwards. The eight Sections of the American Medical Association fairly include the entire field of medicine with all its specialties, and in the membership of the Association are included as elegant writers, active investigators, and skilful practitioners, as exist in any of the special separate organizations of this or other countries. And to the ambitious workers the annual meetings of the Association not only afford more general audiences for each Section, but the papers obtain, through the columns of THE JOURNAL, a much wider circulation in all parts of the country, than they could get through any other channel. Less than seven months intervene before the next meeting, which is to commence on the first Tuesday in June, in Chicago, where every local preparation will be made for as profitable a meeting as the Association has ever held. Let all who intend to make contributions remember that early notice should be given both to the Chairman of the Committee of Arrangements and to the Chairman or Secretary of the Section for which the contribution is designed. For the convenience of all parties, we again publish the addresses of these officers as follows: Chairman of the Committee of Arrangements, Charles G. Smith, M.D., 125 State St., Chicago; Section of Practice of Medicine and Materia Medica, Chairman, J. S. Lynch, M.D., Baltimore, Md., Secretary, J. B. Marvin, M.D., Louisville, Ky.; Section of Surgery and Anatomy, Chairman, H. H. Mudd, M.D., St. Louis, Mo., Secretary, A. M. Pollack, M.D., Pittsburgh, Pa.; Section of Obstetrics and Diseases of Women, Chairman, F. M. Johnson, M.D., Kansas City, Mo., Secretary, W. W. Jaggard, M.D., Chicago, Ill.; Section of State Medicine, Chairman, G. H. Rohé, M.D., Baltimore, Md., Secretary, Walter Wyman, M.D., U. S. Marine Hospital Service; Section of Ophthalmology, Otology and Laryngology, Chairman, X. C. Scott, M.D., Cleveland, O., Secretary, J. H. Thompson, M.D., Kansas City, Mo.; Section of Diseases of Children, Chairman, DeLaskie Miller, M.D., Chicago, Ill., Secretary, W. B. Lawrence, M.D., Batesville, Ark.; Section of Oral and Dental Surgery, Chairman, J. S. Marshall, M.D., Chicago, Ill., Secretary, E. S. Talbot, M.D., Chicago, Ill.; Section of Medical Jurisprudence, Chairman, I. N. Quimby, M.D., Jersey City, N. J., Secretary, H. H. Kimball, M.D., Minneapolis, Minn.

PRIVILEGED COMMUNICATIONS.

In the case of "People *vs.* Murphy," Court of Appeals, N. Y., Crim. L. Mag., April, 1886, it was ruled that when a physician is sent to a prisoner after a crime has been committed, and she accepts his services professionally, disclosures made by her to him are privileged communications, and this rule applies to all actions, civil or criminal. The opinion of such physician as to whether an abortion has been committed, founded partly on such statements, is also inadmissible. Although the prisoner was a party to the crime (abortion), and relatively to it was an accom-

plice of the accused, and, so to speak, a co-conspirator with him, yet her declarations, narrative of a past occurrence, and constituting no part of the *res gestæ*, were not admissible.

SOCIETY PROCEEDINGS.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, October 7, 1886.

THE PRESIDENT, B. F. BAER, M.D., IN THE CHAIR.

(*Concluded from page 500.*)

DR. B. F. BAER presented the specimen and related the following history of

A CASE OF FIBRO-SARCOMATOUS TUMOR OF THE OVARY.

Mrs. ——, aged 36 years; married; two children, youngest 15 years of age. About July, 1885, she first noticed that the lower portion of her abdomen was increasing in size, especially in the left iliac region, and she was troubled greatly with flatulent dyspepsia. She had suffered for many months before with pain in the left iliac region, and on November 29 she was seized with what she characterized as terrible pains in that region. She was compelled to take to her bed, and her physician said she had pelvic peritonitis. She remained in bed three weeks, when she became able to be up, still suffering considerable pain, however, with diarrhœa and an occasional discharge of blood from the rectum. She now noticed a hardness in the lower left iliac reigon. This continued to increase in size, while she grew weaker and began to lose flesh. At this time she passed into the care of another physician, who ordered her back to bed and blistered the surface of the abdomen. She remained in bed four weeks, but the growth failed to diminish in size; on the contrary, it continued to increase. On February 10 she was able to get up and began to feel stronger, but suffered from excessive tympany, together with nausea, loss of appetite, and great pressure upon the rectum and bladder. She also suffered from severe dyspnœa.

On March 30 she was suddenly seized with cramp-like pains in the region of the tumor. These continued for a few days, with almost entire absence of sleep and with continuous nausea. The pain gradually subsided, but she was losing flesh and strength. She had another attack of pain, with such dyspnœa as to leave her recovery a matter of doubt. Ten days later she first consulted me. On examination, I found the abdomen greatly distended and tympanitic, except in the left hypogastric region, which was dull on percussion. Palpation revealed an irregular lobulated mass, apparently having pelvic connections. The uterus occupied the right anterior portion of the pelvis, crowded over by the mass in the left pelvic region. This mass was hard and firm and nodulated, extended into the hypogastric region, and was apparently closely connected with the uterus, as well as with the other organs of the pelvis.

The previous history of the case, together with the physical signs present, led me to suspect the presence of pus, possibly suppuration in a thick-walled ovarian cyst. The uterus measured two and a half inches in depth. Its connection with the tumor did not seem more than ligamentous, and the apparent rapid development weighed against fibroid tumor of that organ.

The indications were plain. The patient entered my private hospital April 9, ether was administered, and an exploratory incision was made. This revealed a nodulated mass having the color and appearance of a thick-walled ovarian cyst; but it seemed to be solid throughout, and was firmly fixed in the pelvis. Its size could not be reduced, and the incision was increased to six inches, the tumor separated from its adhesions and lifted from its nest. I was much gratified to find that it had a very small pedicle, which was tied and the tumor was removed.

The patient bore the operation badly, and it was thought that she would succumb on the table; it was hours before the pulse could be felt at the wrist, but she rallied, and the next morning she seemed to be doing quite well. A free discharge of bloody serum had taken place through the drainage-tube. After alternate sinkings and rallyings, she died on the evening of the second day from shock, from which she had not entirely recovered since the operation. There was not the slightest evidence of inflammatory action. The discharge from the drainage-tube had ceased and the wound was healing nicely.

This case is interesting on account of the character of the tumor. "A true fibrous tumor of the ovary is a thing of very rare occurrence," says Wells, and he goes on to say: "It will be found that many cases reported as ovarian fibroids are in reality tumors beginning in the uterus, which overgrow and involve the ovary so as to disguise its natural appearance, or conceal it altogether." Doran says: "I have never found a solid ovarian tumor to be formed of pure fibrous tissue, and strongly suspect that fibroids of the ovary are identical pathologically with fibroids of the uterus. All the solid tumors that I have seen removed at operations have proved to be sarcomatous or cancerous."

Dr. Formad, who kindly examined this specimen for me, sent me the following report: "The solid tumor of the ovary showed, upon microscopic examination, to be a fibroma with decided sarcomatous change — a fibro-sarcoma." A peculiarity of this tumor is its nodular character.

DR. KELLY remarked that true fibroid of the ovary is very rare, and the specimen here presented is not, in his opinion, fibroid, but sarcoma. The only fibroid he has seen was one which he examined last spring. That tumor was about one centimetre in diameter, and, although attached to the ovary, lay in the grasp of an adherent fimbricated extremity which cast some doubt upon the origin of the small growth. The so-called fibroid appears to be in every way analogous to the "fibroids" of the uterus, and a useful diagnostic expedient is the appearance of bundles of "sympathetically" enlarged fibres running from the hilum into the broad ligament.

DR. BAER also presented the specimen and related the history of

A MONOCYST OF THE OVARY.

Mrs. J., aged 29; married four years; sterile. Puberty at 14 years of age, and menses always normal. Seven years ago, she first discovered that the lower portion of the abdomen was increasing in size. This continued very slowly during the next three years, and at the time of her marriage it was large enough to be perceptible to her friends. It ceased growing until six months previous to the date at which she first consulted me, April 14, 1886, when she seemed to be in excellent health; no loss of flesh; no pain; complexion ruddy, and appetite good. Menstrual flow increased and accompanied with uterine tenesmus during the last two months, and she had begun to complain of pressure and over-distension. When the patient was in the dorsal position the abdomen did not flatten out, and it was symmetrical and smooth. Dulness on percussion over the anterior and lateral surfaces of the projecting portions of the abdomen, with resonance in the line of the colon. There was marked fluctuation in the dull region. Vaginal examination showed the uterus anteverted, of normal size, not freely movable, yet not closely adherent to the tumor.

Diagnosis.—Probably cyst of the broad ligament, from the long existence of the tumor, its slow growth, symmetrical development, together with the fact that it had not influenced the patient's health during its growth until it had attained such size as to interfere with respiration. Its removal was advised, and the operation was performed at my private hospital, April 27. An incision three inches in length was made. The tumor was rather darker in appearance than is usual in cysts of the broad ligament. It was now tapped, and a dark grumous fluid drained away. The tumor collapsed, and was easily drawn through the incision, when its pedicle was found to consist of the entire broad ligament and to be very short, holding the base of the tumor deep in the pelvis. I was compelled to enucleate the cyst, leaving a broad open pedicle or surface, which I ligated *en masse*.

An accident now occurred from which the patient almost lost her life from hæmorrhage, viz.: slipping of the pedicle ligature. The mistake was in endeavoring to make a pedicle of the broad ligament, which had been laid widely open by the enucleation of the tumor, and which was not a proper pedicle. The mass was too great to be held by ligature, and was treated by bringing the edges together by interrupted sutures, of which ten were required. The hæmorrhage was checked by grasping the vessels in clamp forceps until the sutures were placed. There were no after symptoms. The patient is now entirely well.

I call attention to the monocystic character of this tumor, its location in the broad ligament, and to the character of the contained fluid—dark-colored and thick, not clear and limpid, as is usual in cyst of the broad ligament proper.

The report of Dr. Formad is: "The cyst is a monolocular one, developed from the ovary undoubtedly. Its lining is characteristic of ovarian cysts—epithelial, and whatever scrapings from the wall could be obtained showed the ovarian cells of Drysdale. The fluid was dark, grumous and turbid, which excludes cysts of the broad ligament or parovarian, as the latter kind of cysts have always a limpid, clear liquid."

Dr. Baer also presented the specimen and read the history of

A CASE OF BURSTING CYST OF THE OVARY.

Mrs. E. G. was sent to me by her physician, Dr. James Simpson. She was 47 years of age, and had been married twenty-seven years, but had never been pregnant. Puberty at 14 years, menstruation always painful. She stated that twelve years ago she had felt a "lump" in the left iliac region. This was painful, especially during the menstrual period. In the fall of 1885 the lower portion of her abdomen began to enlarge, and within a few months it had so increased in size as to render locomotion and respiration difficult. On January 1, 1886, while riding in a street car she was jolted in crossing a railroad track. She was at once seized with great pain in the abdomen, accompanied with pallor and faintness. She was taken home and placed in bed. A short time afterwards she began to vomit a fetid fluid, which came up in large quantity and at regular intervals, and at the same time she passed fluid of the same character from the bowels. The next day she had, in addition, attacks of profuse perspiration. She also had a slight metrorrhagia, the first evidence of menstrual flow since January, 1884. The abdomen rapidly diminished in size and within a week had regained its normal dimensions. It was three weeks before her strength had returned sufficiently to permit her to go about. She soon noticed that her abdomen was filling up again, and within a month it had become as large as it had been on January 1st. During the first week in March she was again seized with pain of the same character, and followed as before by vomiting, purging, diuresis, and diaphoresis and reduction of the abdominal distension. All of the symptoms were more marked in the second attack. Six weeks afterwards she was as large as ever, and she then came into my care.

She presented an appearance of great pallor and commencing emaciation; the "facies ovariam" becoming plainly perceptible. She was very nervous and excited for fear of a repetition of the phenomena that had occurred before.

On examination in the dorsal position, the abdomen was rather projecting, not flat, and was larger on the right than on the left side. It was smooth throughout, and gave a dull sound on percussion over the whole anterior surface, resonance existing in the line of the colon. There was marked fluctuation throughout the dull portion. Vaginal touch showed the uterus to be situated high, as if it were drawn upward. It was not freely movable, and the external os too small to admit the sound.

Diagnosis.—Ovarian cystic disease. Immediate operation advised.

On July 22 the operation was performed at my private hospital. Incision three inches, in median line; wall of the tumor thin and dark colored. The trocar was passed and the contained fluid, dark in color, drained away. The cyst collapsed and was

easily drawn through the incision. The pedicle was short and broad, consisting of the broad ligament, and requiring enucleation of the tumor before its ligation could be accomplished. It was now found that another tumor existed on the left side. This had a peculiar shape, being elongated and deeply seated in the pelvis, as though it were entirely subperitoneal. The peritoneum extended out from the the uterus, spreading over the tumor and approaching the abdominal wall, as is sometimes seen in a fibroid tumor of the uterus which has pushed that membrane upward in its growth. The cyst extended along the line of the colon, and at first I was not sure that it was not that organ greatly distended by gas. I soon determined that it contained fluid, and that its general appearance, color, etc., were similar to those of that just removed. It was emptied, by means of the trocar, of a fluid similar to that of the first tumor, and the tumor collapsed. I hesitated as to the proper course now, because of the large and broad base of this cyst, and its close adhesion to the descending colon. I first thought of stitching it to the abdominal incision and inserting a drainage-tube into it, and was soon afterwards sorry that I did not follow out my first idea. I began an attempt at enucleation, and this was attended by so much hæmorrhage from the large surface which it was necessary to dissect, that I was compelled to desist. I had separated at least six inches of the descending colon from the cyst when I found that the latter dipped down so deeply into the pelvic excavation that I concluded it would be hazardous to finish the enucleation. I was in a quandary, for I had only two-thirds of the lining membrane of the cyst in my control, and I finally did what I was never compelled to do before, and what I may be criticized for doing in this case. I drew up as much of the cyst as was possible, threw a ligature around the mass, tied it as a bag, and cut away the external portion; thus leaving a large quantity of the lining membrane still within the pelvis. The oozing of blood from the large open surface was checked by ligatures and compressive forceps until all bleeding had ceased. The toilet of the peritoneum was then made, a drainage-tube inserted, and the incision closed. During the next few hours there was a free discharge of bloody serum through the tube, but the next morning it had ceased. On the third day the tube was removed. The patient made an excellent recovery, and went home on the twenty-third day.

The points of interest in the case are: 1. The bursting character of both of the cysts. 2. Their monocystic character and probable ovarian origin. 3. The deep attachment of the one on the left side and its partial removal only.

"Bursting Cysts of the Abdominal Cavity" is the title of a very instructive paper which was read before the Gynæcological Society in 1881 by Dr. Wm. Goodell, and in the paper itself and the discussion which followed it was shown that this character of tumor is not so rare as the experience of a single individual might indicate. In addition to the cases which Dr. Goodell himself reported, three in number, there were no less than ten of the members present who had met with cases of similar character, some of the gentlemen as many as six or seven. Only two or three of the cases reported died as the result of the discharge of the fluid into the abdominal cavity. This appeared to prove that the fluid of an ovarian cyst was not so irritating to the peritoneum as had been supposed. Dr. Goodell took the position that these cysts were of the broad ligament or parovarium, and not true ovarian cysts, and as a consequence the fluid was bland and unirritating, being readily absorbed and discharged through the emunctories. This view is probably correct for the majority of cases, but there are others where the evidence furnished by operation has proved the origin of the bursting cyst to have been in the ovary. The monocystic character of the tumors in this case, and their location beneath the peritoneum, within the folds of the broad ligament, would seem to indicate that they originated in the parovarium and not in the ovary; but the character of the fluid and its rapid secretion are in favor of an ovarian origin. An interesting feature in this case is the fact that the fluid was discharged by vomiting and purging as well as through the bladder and skin, showing that it must have been emptied into the abdominal cavity as well as into the intestinal tract. From the close attachment of the tumor on the left side to the colon, it is probable that this cyst discharged itself into that organ and was thus thrown off by vomiting and purging. While the fact that diuresis and diaphoresis took place at the same time in such quantity, and that the abdominal distension entirely disappeared, would lead to the conclusion that both cysts must have burst simultaneously, the one discharging into the bowel, the other into the peritoneal cavity. This is interesting, if true, and probably unique. At least I have not been able to find a record of a similar case. I examined this patient recently and found only a slight induration on the left side. She has been quite well.

DR. HARRIS mentioned a case of bursting cyst that had been sent to Dr. Atlee for operation after the cyst had burst once and refilled. The day had been fixed for operation, but menstruation coming on a postponement was made, and the cyst again burst and the woman died in collapse. Ovarian tumor had been diagnosticated.

DR. PARRISH mentioned a case of rupture of an ovarian cyst which occurred in the "old woman's ward" at the Philadelphia Hospital. The rupture was spontaneous while the woman was in bed. She died in a few minutes from shock. In another instance in which rupture had not been suspected, one cyst, the contents of which were colloid, had burst, another ovarian cyst was found and removed. There was no evidence of acute inflammatory action.

DR. BAER exhibited a

FIBROID POLYPUS OF THE UTERUS.

The patient had suffered from metrorrhagia for two or three years. Labor-like pains were followed by spontaneous expulsion of the tumor, which was supposed, by three physicians, to be an inverted uterus; it was replaced in vagina and tamponed. Dr. Baer found the uterus in normal position, and removed the tumor by means of the spoon-saw.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, Oct. 18, 1886.

E. J. DOERING, M.D., PRESIDENT, IN THE CHAIR.

DR. R. W. BISHOP read a paper entitled

IS ALOPECIA PREMATURA CONTAGIOUS?

Dr. Bishop thought this disease due to micro-organisms upon the shafts of the hair, and that it is contagious. He has made a series of experiments, assisted by Dr. Oscar Lassar. A typical case was that of a perfectly healthy young man whose head was nearly bald on top. The hair from the diseased surface was brittle and came out easily when pulled. Microscopic examination revealed a large number of fungi on the scalp and the shafts of the hair. the root being free from the parasite. The diseased hairs were cut and mixed with vaseline, which was rubbed on the skin of healthy rabbits, and in two weeks the hair entirely disappeared from the parts which had been rubbed. Experiments were continued, and it was found that the hairs from the inoculated animals possessed increased virulence.

The patient was treated as follows: The head was thoroughly washed for fifteen minutes with tar soap, which was removed with warm water. The head was then exposed to a warm water douche, which was gradually cooled until the water was quite cold; it was then rubbed with a rough towel until dry, and afterwards washed with a solution of corrosive sublimate 1 : 500. This was removed and a ½ per cent. of lithol applied, and, after this, 1½ per cent. carbolic oil was applied very slowly. The treatment was continued daily for eight weeks, and the result was a fine growth of new hair with beginning pigmentation at the end of three months.

DR. JOSEPH ZEISLER thought this was a disease which possibly might be produced by vegetable organisms. He knew of Dr. Bishop's experiments, but still there were strong objections to the value of these experiments. Michelson made some experiments by using a mixture of vaseline and rancid oil and rubbing it on the skin of guinea-pigs, and after these inunctions the animals got bald on the places anointed, although neither sick hairs nor scales were used. There are older experiments which show that animals fed on old cheese or hard boiled egg get bald. Another point was, that the disease is so frequently met with in men and so rarely in women, between whom there are plenty of chances for contagion. It is an ascertained fact that the disease most frequently occurs in men who in their earlier years (17 to 25) suffer from pityriasis of the scalp, so that there certainly is a causal relation between this affection and alopecia. After all, he thinks that the contagiousness of this disease is still an open question.

DR. FRANK BILLINGS made some remarks on

HOSPITAL PRACTICE IN VIENNA, WITH EXHIBITION OF NEW URINE TESTS, NEW INSTRUMENTS, ETC.

The hospital at Vienna contains about 2,500 beds. The number of deaths per year is about 3,000. Prof. Nothnagel, who presides over the first medical clinic, has from 80 to 100 patients in his ward continuously. Histories of the patients are written by assistants and left in charge of the nurses. Temperature charts are kept of important cases, the temperature being taken every two hours. Daily clinical and microscopical examinations are made of the urine in all important and grave cases. Dr. Billings gave an illustrated description of the tests employed. He said that in the Vienna hospitals some form of tuberculosis is found in nearly 70 per cent. of the deaths. The treatment of acute diseases is generally expectant, and in typhoid fever, milk and other liquid diet is used. Previous to 1879, when the city obtained its water from the Danube River, typhoid fever was almost epidemic in Vienna. In that year they put up new water works, and since that time not one case has developed in the city. The obstetrical department is divided into three clinics, with 3,000 confinements in each clinic yearly. Four cases of sublimate poisoning occurred last winter. The autopsies showed ulceration throughout the alimentary tract with charred, black appearance of the mucous membrane throughout the colon and rectum. The solution used in these cases was 1 to 4,000, bichloride of mercury. Abortion is treated by rest in bed with non-interference, unless too severe hæmorrhage occurs, when tampons are used. In the gynecological department Prof. Braun performs laparotomy every Wednesday. Where a part of tumor is left in the stump, the prognosis is bad even when treated externally, because of the low vitality of the tumor tissue, which becomes necrotic. In operations about the anterior vaginal wall no anæsthetic is used. In the surgical wards of Profs. Billroth and Albert, closest attention is paid to cleanliness. The operating rooms are constructed with floors inclined to the centre, where a grating allows all blood, water, etc., to flow away. The floor is thoroughly douched every day. Sponges, silk sutures and towels used in operations are boiled in a 5 per cent. solution of carbolic acid for one hour, then placed in a 5 per cent. solution for fourteen days. Cutting instruments are polished and placed in a 2½ per cent. solution of carbolic acid during the operation. Instruments used in operations for abscesses, etc., are heated in flame and sent to the instrument maker to be repolished. A 10 per cent. solution of carbolic acid is used for irrigating wounds during operation. For partial amputation of the tongue a bloodless method is used as follows: First, a double stout suture thread is passed through the centre of the tongue from below upward and backward, beginning at the frænum; the two threads are twisted and tied upon the side firmly enough to control the vessels. The part is then amputated smoothly by taking out a triangular section. Two deep, and a sufficient number of superficial sutures close the wound after the vessels are secured. A bacteriological laboratory is connected with the pathological department, and cultivations of bacteria are made from typhoid fever, pneumonia, erysipelas, glanders, septicæmia and other diseases. Experiments with bacterial cultures are made upon lower animals. Nearly every department of the hospital now has a bacterial laboratory, and the search for new forms and confirmation of already discovered bacteria goes on with enthusiasm.

DR. C. W. PURDY said that in testing the urine for evidence of kidney diseases, the only proteids of any significance were serum albumin and globulin. The presence in the urine of peptone, hemialbumose, etc., points to morbid conditions outside of the kidneys, and whatever light they may shed upon general conditions, they afford us no information whatever as to the state of the kidneys. He mentioned this because so much had been written of late on peptonuria, and the various transition proteids, that an impression seemed to have arisen that the presence of these in the urine was of scarcely less importance than that of serum albumin. The only bearing these non-homogeneous proteids have upon the subject is the fact that their occasional presence in the urine may, with certain tests, be mistaken for serum albumin, unless great care be exercised.

He believed the most delicate of all tests for albumin in the urine to be the potassia mercuric iodide with citric acid; but that it had not met with general favor thus far on account of the errors liable to arise through its use. It is necessary to discriminate between the precipitates formed by this test with peptone, alkaloids, above all with mucin, and that formed by serum albumin. It is true that heat clears up the precipitates due to peptones and vegetable alkaloids, but not so with mucin, the latter being practically indistinguishable from albumin. He has lately, however, come upon a method which he believes will correct not only the errors due to the presence of mucin, but also those likely to arise from the presence of alkaloids and peptone when precipitated by this test. The method is very simple, viz.: after having applied the reagent to the suspected urine, if a precipitate be formed, add hydrochloric acid in volume equal to the quantity of urine tested; if mucin, peptone, or vegetable alkaloids be the cause of the turbidity, it promptly clears up; while if due to albumin the precipitate becomes flocculent and settles, but does not dissolve. A considerable number of experiments have shown him that hydrochloric acid in volume equal to one-half the quantity of urine tested quickly clears up the peptone, alkaloid and mucin precipitate, while it requires at least two volumes of hydrochloric acid to dissolve the slighter traces of albumin in urine when precipitated by the mercuric test.

With regard to sugar testing: In addition to the test brought forward by Dr. Billings, two new ones have recently been introduced, both of which are of such exceeding keenness that they are claimed to be able to detect 0.00001 per cent. of sugar. These tests are, alcoholic solutions 15 to 20 per cent. of alpha-naphthol, and thymol. Two drops of either of these solutions are added to two cubic centimetres of urine, and the mixture briskly shaken; sulphuric acid is next added in quantity equal to the volume of urine, and again briskly shaken. In the case of alpha-naphthol a deep violet color is developed in the presence of sugar, and dilution with water throws down a violet blue precipitate, soluble in alcohol with a yellow color, or in caustic potash with a deep yellow. In the case of thymol a dark red color is produced, and, on adding water, a precipitate settles, which dissolves with alcohol, forming a yellow color more decided if ammonia be added.

Dr. Purdy often had samples of urine sent him, which though loaded with albumin, no casts could be found therein. These were samples of urine which had been long passed—perhaps several days before, alkaline fermentation having occurred, and the urine rendered alkaline quickly dissolves the casts. In searching for renal casts it is of the greatest importance to have the urine as freshly passed as possible. His method of examining urine for casts is as follows: First, he prefers to have the urine passed at his office. If the urine be neutral or alkaline in reaction, he renders it frankly acid by the addition of dilute acetic acid. In all cases he adds a solution of resorcin to the urine which prevents change for weeks. The urine thus treated is set aside in a conical glass, carefully covered and allowed to stand for from twenty-four to forty-eight hours; at the end of this time, a few drops—not more than ten—are taken up by a glass tube from the bottom of the glass, and one or two drops placed upon a glass slide and examined under the microscope. He had had no difficulty in finding casts by this method if they were present in the urine even in sparse numbers.

DR. FRANK S. JOHNSON described a new form of *Hæmoglobinometer*, viz.:

THE HÆMOTER OF VON FLEISCHL.

It consists of a stand with a horseshoe base, an upright, a stage, and a well divided perpendicularly in two equal compartments and closed below by thin glass. One-half of the well is to hold blood of known dilution, the other half is for clear water. This well fits an opening in the stage. Beneath the stage is a plane white reflector. On the under side of the stage is a frame that can be racked back and forth. Set in it is a narrow wedge-shaped piece of ruby glass whose width is one-half that of the opening in the stage. The thicker end of the wedge gives by transmitted light the color of a dilution of blood containing the maximum amount of hæmoglobin. The thinner portions correspond with the color of a dilution of blood poorer in hæmoglobin. The percentage of variation from the normal amount of hæmoglobin is estimated by comparing the color of the blood solution with some part of the ruby wedge. Only artificial light can be successfully used for the examination.

With the instrument are several capillary tubes for measuring the amount of blood to be used for comparison with the colored glass standard. The necessary amount of water for making the dilution is measured in one of the chambers of the well.

The blood for examination is best obtained by pricking the ball of an uncompressed finger and forcing out a drop by gentle pressure. The amount needed is taken in the capillary tube. One of the halves of the well having been previously half or two-thirds filled with water, the blood can be easily washed from the measuring tube into it. Then both halves of the well are accurately filled with water so that the upper surfaces are plane. A small pipette is furnished for this purpose. The well is then so

adjusted that the half holding water is above the colored glass, and that holding the blood solution receives its light directly from the white reflector. The next step is to so adjust the ruby wedge that the light it transmits corresponds in color with that passing through the blood solution. The observer then reads off the percentage of the normal amount of hæmoglobin as indicated by a scale graven upon the metal frame carrying the glass wedge. The average percentage of hæmaglobin in the blood of healthy individuals varies greatly with age and sex. The average is from 12 to 13 per cent. The percentage of this amount is ascertained by comparison with the color scale. This result should be corrected as far as possible for the known variation of hæmoglobin in healthy blood. Taking as the normal percentage that found in the blood of healthy individuals between 25 and 30 years of age, it is found that in the first few weeks of life the percentage is greatly in excess; but after six months or a year, it is below the adopted standard, reaching it again at about 25 or 26 years of age, and that after the thirtieth year, the amount is below the normal but is variable.

The instrument recommends itself to the ordinary practitioner. It does not entirely replace the hæmocytometer, but in all cases where it is only necessary to watch from time to time the rise and fall of the hæmoglobin in the blood, it can be done much quicker and more accurately than by the hasty counting of the corpuscles by the microscope.

Dr. J. J. M. Angear thought that it is necessary to count the globules, because we have conditions where the red corpuscles are normal in number but deficient in hæmoglobin, hence the necessity of both instruments.

Dr. C. E. Webster, Chairman of the Pathological Committee, exhibited a spinal column and said that it showed caries resulting in the entire destruction of the bodies of one of the vertebræ, without the protection of the characteristic deformity before the removal of the ligaments, no curvature being noticeable.

GYNÆCOLOGICAL SOCIETY OF BOSTON.

Stated Meeting, September 9, 1886.

The President, H. O. Marcy, M.D., in the Chair.

H. J. Harriman, M.D., Secretary.

Dr. J. E. Kelly, read a paper entitled

THE ETHICS OF ABORTION, AS A METHOD OF TREATMENT IN LEGITIMATE PRACTICE.

(See page 505.)

Dr. L. F. Warner said that the paper did not admit of criticism, but deserved candid and unqualified approval. He believed that no woman ever used means for procuring the death and expulsion of the fœtus without realizing that it was a moral wrong, and that every woman who did or consented to the act thereby lowered herself morally beyond recall.

Dr. Symington Brown remarked that the paper was an admirably drawn up special plea, which might have done credit to a lawyer. Dr. Kelly had set out by disclaiming all sectarian bias; but the fact was that the whole plea was based on the authority of the Church, and, like many similar arguments, could not hold water. He was aware that this was not the place to discuss such a question, and did not deny that the Church had a right to dictate to its own members; but he emphatically denied its right to dictate to him. He thought that Dr. Warner had failed to grasp the real aim of the paper, which was not directed against *criminal* abortion, but against abortion itself under all possible circumstances. The mere fact that the word "criminal" is prefixed shows that there must be a kind which is justifiable. The physician, after consultation, is the proper party to decide what is best to be done, and the patient has a right to veto his decision. For his part, he only recognized one rule to be governed by, and that is, the welfare of his patient. He would like to ask Dr. K. how his argument would apply in a case of extra-uterine pregnancy? During the early months, a current of electricity suffices to destroy the fœtus without injury to the mother. Is not a child alive outside as much as inside the uterus? Yet no conscientious gynecologist scruples to kill the fœtus under these circumstances; and, in my opinion, he is fully justified in so doing, because the welfare of the patient demands it. Would the essayist allow both the mother and fœtus to die in order to save his own conscience? According to the tenets of the paper he would.

As regards the legal tribunal to the verdict of which Dr. K. inclined, as a last resort, to refer cases of abortion he would simply remind him that law is not infallible any more than medicine, and that innocent men have been hung on circumstantial evidence. He hoped that this Society would not indorse the idea that it is wrong, *under all circumstances*, to produce abortion.

Dr. A. P. Clarke said that many women are depressed and nervous during gestation, and need the encouragement of their physician in order that they may withstand the temptation to secure a miscarriage. To treat these patients judiciously so as to tide them safely over this critical period of depression, is the duty of the physician. Dr. Clarke believes that criminal abortions are less frequent than formerly.

Dr. Chas. R. Whitcomb thought that the physician was, to a certain extent, the custodian of the public morals, and should not assume to act as judge of life and death. He agreed with the conclusions of Dr. Kelly's paper, and did not consider abortion justifiable under any circumstances.

Dr. E. W. Cushing said that the arguments of the speaker were very old, and extremely well wrought out, as some of the acutest minds of the Catholic Church had been at work on the subject for centuries. The syllogism appeared perfect, and the conclusion inevitable; yet, in reality, the reasoning is somewhat sophistical, for one of the premises on which it rests is shaky. In substance the writer says that killing an infant to save the life of the mother is homicide; well, so it is. Moreover, that the only jus-

tifiable homidide is under certain circumstances which he describes, viz., self defence, command of civil authority, etc. Here is the weak point; where is his authority for excluding another category, *i. e.*, where the phvsician fulfils the unwritten law of civilized life and organized society, in taking a fœtal life to save another, the mother's, just as a General may send one man or body of men to certain death in order to save other and more important parts of his army.

Now, either we have to squarely admit the authority of the Roman Church to settle all matters of morals, or each man must help himself by the light of his conscience, guided, by the average opinion of his time and community, and by the concensus of the competent. Now we of the medical profession are the competent, and the concensus on this question is overwhelmingly affirmative.

The Protestant churches have no opinion officially on this question, as on many others, where medicine and morals come so near together that the Catholic church has seen fit to decide what is right and wrong. Let any one read Father Gury, or any of the ponderous Latin works on Roman Catholic moral theology, and he will find other points where modern society differs decidedly from the church. Judged strictly thereby we should most of us be damned anyhow, and in settling these questions we have to do as Nelson did when he put his blind eye to the telescope to read the signal to retreat, and, continuing the fight at his own risk, saved the battle and his own neck.

No one abhors criminal abortion more than I do, and I know that Dr. Kelly's Catholic friends will, in a generation or two, have the majority side of this whole question, for what with frequent abortions, and the studied prevention of conception, equally reprobated by the Catholic church, the Catholic birth-rate hereabouts is six to one of the Protestant, without counting the fact that every twelfth marriage in New England ends in a divorce, nearly all of these divorces being among Protestants. So that in a few generations New England will be a strong Catholic country, like Belgium. Now however, this is not the case, and neither our civil organization nor our professional duties can be subjected to rules which, however logically they are worked out by men who never had any wives nor children, can be brought to a *reductio ad absurdum*, as here to-night, where Dr. Kelly maintains that it is wrong to kill a small extra-uterine fœtus by electricity, even when by not doing so we know that the child is nearly sure to die, and the mother is only saved, by exception, in rare cases.

In regard to the laws making every procurement of abortion a criminal matter, it is in the interest of the mother, primarily, that they are passed and enforced, for the legislators and courts do not in practice hold that the life of the mother must be sacrificed or greatly endangered to save that of the fœtus.

In regard, however, to abortion, it is evident that something must be done to check the most crying outrage and evil of our civilization, and any way in which physicians can help educate the community to a proper sense of the gravity and danger of the act or process of abortion should be welcomed.

Dr. Cushing did not believe that special courts could be established or worked, but would favor a regulation providing that in all cases requiring abortion or craniotomy the medical examiner of the district must be notified, and made a consultant, or at least exactly informed as to the necessity for the operation. In cases where the emergency does not admit of even a few hours' delay—and they are few—a formal notification should be required within twelve hours; in fact, the whole matter should be surrounded with the formality due where the life of a human being is involved. Until such legislation is procurable it ought to be the first and plainest duty of every physician proposing to kill a fœtus to get the best medical advice available, in consultation, and to remember, in cases requiring craniotomy, how successful the Cæsarean section has become in these modern times.

DR. H. C. WHITE said that to every medical man there comes a supreme moment when he is above the mandates of Church or State, and must act upon his own responsibility, according to the best light that he has. Under these conditions, how much less wrong is it to allow two lives to be lost than to save the more valuable one by sacrificing the life of an unborn and perhaps not viable fœtus? He said that abortion and craniotomy should not be performed until the best available counsel had been consulted, but that under circumstances where such aid could not be secured, he need not hesitate to sacrifice the life of the fœtus if he considered that unfortunate step necessary to save the life of the mother.

THE PRESIDENT said that he had listened to the paper and its discussion with more than ordinary interest. On his own part, he would be very glad to accept the views of the writer, since it saved the assumption of a grave personal responsibility, and reduced the question to a formalistic one. In the early days of the Church, when medical learning was, at the best, very imperfect, and the induction of abortion, or miscarriage, was followed by most grave dangers to the mother, the wisdom of the measure to save the life of one at the cost of that of another was a very doubtful expedient; and it was very likely safer to trust to nature. He did not understand that there was anything in the creed of the mother Church to prevent the saving of one life if it was evident two must be sacrificed by non-interference. To the Catholic mother, the baptism of the child was an important rite, and he had often performed it under the direction of the clergy. Under certain conditions this simplified the question. He had, however, recently seen a case, in consultation, of vomiting in pregnancy where death followed a few days later from exhaustion. His advice of inducing abortion had not been accepted, as the family were Catholics, acting under the special direction of their clergyman. In a considerable number of instances he had induced abortion where he felt he had thereby saved the life of the mother. In a certain class of cases he should not feel justified in refusing his services.

The suggestion of the author of submitting all this class of cases to a Board of medical men, specially appointed, presented some manifest advantages. It

would shift the responsibility from the general practitioner, and at the same time secure a much safer result to the patient by ensuring competent service. It would not be pleasant to contemplate such a "Board" of legally constituted executioners, and out of large cities would be impracticable. For good reason, it may be assumed abortions for the real purpose of saving the life of the mother are now rarely undertaken, except after a careful consideration of the whole subject in consultation.

DR. KELLY, in closing the discussion, said that he had but little to add to the paper which he had read. His desire was to induce the discussion of the subject, and he had succeeded most agreeably. He was pleased that so many of the speakers coincided with his views, and he would reiterate his convictions that the fœtus, although incapable of defending itself, should have extended to it the same degree of justice as that which every other individual receives from his fellow-men, and that it is unjust and unwise to impose upon the members, fallible or infallible, of the medical profession the duty, appalling upon reflection, of sentencing, single-handed, and executing a living and sentient fellow-mortal. The expressions of the speakers indicating their belief that it is their duty to perform abortion in certain cases, convinced him that they had not considered the subject in all its bearings, and he should be pleased if his paper induced them to reconsider their position of one-sided justice. Laws were not made for the just man, but for those who are unrestrained by higher or nobler precepts. Freedom of action requires careful limitation, as without this the convictions of a madman could be quoted in extenuation of his freaks, and it would be illogical to permit the individual to indicate the line at which freedom of opinion should give place to legal or religious restraint. There are many acts, some of them most repugnant, which are perfectly legal, and yet no self-respecting man would think of performing them. Legality, necessity and expediency do not afford sufficient excuse for acts which are naturally, initially and fundamentally wrong. The declaration of our unalterable conviction of the probity of our acts may sometimes deceive or satisfy those in whose interests those acts are performed, but it does not appease the "still, small voice within."

DR. H. O. MARCY exhibited specimens of

WOOL FOR SURGICAL USE

prepared by the Globe Pharmaceutical Company of Boston, and said: Absorbent cotton, as is well known, is the pure fibre, freed from the vegetable oil which, in an extremely thin layer, covers each filament. For certain surgical purposes, this is unequalled by any other material. However, the fibres mat together in such a way, that the secretions from wounds permeate the dressing imperfectly, and drying, cause an incrustation which prevents the escape of fluids and thus retards rapid repair, even in aseptic wounds. More recently, wool fibre has been recommended and received the approval of a considerable number of prominent surgeons. The wools which I have used have been so imperfectly prepared that I have found them objectionable. These specimens from the Globe Pharmaceutical Co., of Boston, merit your commendation as being clean, free from oil and therefore absorbent, although in a less degree than cotton, and aseptic. The fibre is carefully carded and is separable into sheets as desired, and impregnated with mercuric bichloride 1–2000. As a vaginal packing, by its elasticity, it often aids materially in the retention of a replaced uterus, while it is more comfortable than the cotton tampon, and more easily permeated by fluids. Because of its greater porosity, it admits of a much freer drainage, thus rendering it especially adapted as a dressing for wounds, fitting irregularities and much less liable to displacement. As a padding for splints, especially with fixed dressings, *e. g.*, plaster, it leaves little to be desired. Wool receives and retains the various antiseptics better than cotton, particularly iodoform, which is distributed through it better than through cotton, even when woven into the thinnest gauze fabrics. Wool dressings, when properly prepared, deserve to receive a permanent place in the armamentarium of the modern surgeon.

DOMESTIC CORRESPONDENCE

POTASSIUM CHLORIDE.

TO THE EDITOR OF THE JOURNAL:

Dear Sir:—After reading Dr. A. F. Pattee's article on "Potassium Chloride," in THE JOURNAL for July 24, 1886, I concluded to give it a trial in several stubborn cases, and the result has been all that I could wish. In myalgia, or psuedo-rheumatism, it has proved very efficacious; in induration left after pelvic cellulitis, and in glandular enlargements, I have found it a valuable remedy.

Yours truly, G. W. WILBER, M.D.

Philadelphia, Pa., Oct. 22, 1886.

BOOK REVIEWS.

TRAITÉ DES RÉSECTIONS et des Opérations Conservatrices qu'on peut pratiquer sur le Système Osseuse. Par L. OLLIER, Professeur de Clinique Chirurgicale à la Faculté de Médecine de Lyon, etc. Tome Premier; Introduction—Résections en Général; avec 127 Figures.

A TREATISE ON RESECTIONS and Conservative Op, erations on the Osseous System. By L. OLLIER-Professor of Clinical Surgery in the Faculty of Medicine of Lyons. Vol. 1, Introduction—Resections in General. With 127 Figures. 8vo., pp. vi—664. Paris: G. Masson. 120, Boulevard Saint-Germain. 1885.

It was Professor Ollier's intention not to issue the two volumes of his work separately; and it could be wished that our European confrères would all have such intentions and carry them out. But in this case so many difficulties and obstacles arose which delayed the completion of the second volume that the first

has been issued long in advance of the second. And now that the great author has passed away it is with some solicitude that we await to see if the second will come at all. The first volume is devoted to an exposition of the general questions and rules which should serve as guides for all resections, and nothing is omitted. It also contains the operative principles of which the applications are reserved for the second volume when the subject of particular resections is taken up. Necessarily the questions of method should precede those of procedure. "Today, when thanks to asepsis and antiseptic methods," says the author, "the most useless and irrational operations may be attempted with impunity, it is particularly necessary to determine the indications for operations, and to thoroughly recognize the remote and definite results of every surgical procedure. . . . In surgery success justifies nothing in itself. The ability to do certain operations without great danger does not give us the right to practise them. . . . Since the development of antiseptic methods the operative mania, the *prurigo secandi*, with which certain surgeons have been attacked, has certainly lead to many useless operations. In judging of the value of many resections and other conservative operations which may be done on the bony system, the immediate result is insufficient." We would gladly quote more from this preface, so full of medical commonsense.

In an introduction of 119 pages the author reviews the history of resections (46 pages), and gives the fundamental physiological facts relating to these operations. His account of his experiments on bone and periostium is exceedingly interesting, and well illustrated with 33 cuts.

In the first chapter of the book proper the author deals with the technique, indications and general results of resections. The second chapter, of almost 50 pages, is devoted to a discussion and description of the instruments used in resections, and has 47 illustrations, many of them of American instruments. The third chapter deals with the general rules in 60 pages. The fourth chapter, of 33 pages, deals with the post-operative treatment of resections. The fifth chapter, 100 pages, deals with reparative processes, and regeneration of bone after resections. The general indications for resections are given in a short chapter of about 23 pages. A chapter of 70 pages is devoted to the indications for pathological resections. The traumatic indications are given in a chapter of 34 pages. The remaining 140 pages are devoted to orthopædic and osteoplastic resections, and to the remote and general results of the operation. Throughout the book bears the mark of the hand of the great master of bone surgery, and is a monument to his great learning, patience and surgical skill.

MISCELLANEOUS.

NEW YORK STATE MEDICAL ASSOCIATION.—The third annual meeting of this Association will be held in Lyric Hall, New York City, on November 16, 17, and 18, under the Presidency of Dr. E. M. Moore, of Rochester. The meeting promises to be one of the most interesting medical gatherings ever held in this country. There will be a general discussion on gunshot wounds of the intestines, on pulmonary tuberculosis, and on puerperal eclampsia.

COCAINE ADDICTION. — If any reader of THE JOURNAL has met with a case of cocaine addiction and will send me the fullest details at his command, I will thank him for the courtesy, reimburse him for any expense incurred, and give him full credit in a coming paper. J. B. MATTISON, M.D.
Brooklyn, 314 State St.

NOSTRUMS IN GERMANY.—The *New York Evening Post* says: "What a commotion there would be among our patent-medicine venders if the New York police followed the example of the Berlin police, who are continually issuing warnings to the public, of which the following is a specimen: 'The tradesman, Paul Heider, of this city, Anklamer street 28, is selling under the name of "Harz Mountain Tea" a mixture of lavender flowers, sassafras root, peppermint, and several other plants, weighing 50 grammes. His price is 50 Pfennigs, and he advertises it as a remedy. Official analysis has shown that the real value of one of these packages is hardly 10 Pfennigs.''

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 23, 1886, TO OCTOBER 29, 1886.

Major Warren Webster, Surgeon, leave of absence on account of sickness further extended one year on account of sickness. (S. O. 244, A. G. O., Oct. 20, 1886.)

Major J. S. Billings, Surgeon, granted leave of absence for eight days. (S. O. 246, A. G. O., Oct. 22, 1886.)

Capt. John V. Lauderdale, Asst. Surgeon, leave of absence extended one month. (S. O. 249, A. G. O., Oct. 26, 1886.)

Capt. Jos. K. Corson, Asst. Surgeon, granted leave of absence for one month, to take effect when his services can be spared. (S. O. 246, A. G. O., Oct. 22, 1886.)

Capt. E. B. Moseley, Asst. Surgeon, relieved from duty in Dept. of the Columbia, and ordered to report in person at hdqrs Div. of the Pacific for assignment to duty. (S. O. 87, Div. Pacific, Oct. 16, 1886.)

Capt. B. D. Taylor, Asst. Surgeon, from Dept. East to Columbia Bks, Ohio.

Capt. L. S. Tesson, Asst. Surgeon, from Dept. Texas to Dept. East.

First Lieut. C. C. Barrows, Asst. Surgeon, from Dept. Arizona to Dept. East.

First Lieut. P. A. Egan, Asst. Surgeon, from Dept. Arizona to Dept. Texas.

First Lieut. F. V. Walker, Asst. Surgeon, from Dept. East to Dept. Texas. (S. O. 244, A. G. O., Oct. 20, 1886.)

First Lieut. E. C. Carter, Asst. Surgeon, granted leave of absence for six months, with permission to apply for an extension and to go beyond sea, to take effect when his services can be spared. S. O. 244, A. G. O., Oct. 20, 1886.)

First Lieut. Chas. S. Black, Asst. Surgeon, granted leave of absence for two months, on surgeon's certificate of disability, to take effect when his services can be spared. (S. O. 244, A. G. O., Oct. 20, 1886.)

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING OCTOBER 30, 1886.

Diehl, Oliver, P. A. Surgeon, U. S. N., granted three months' leave from 26th inst.